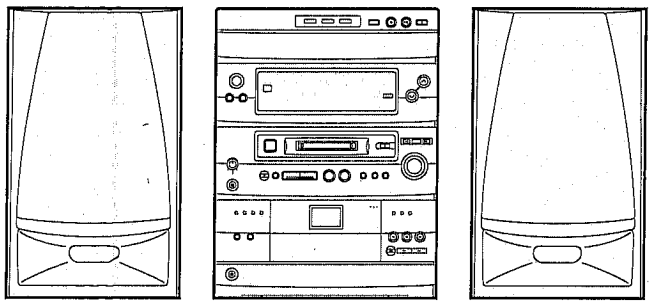
SHARP SERVICE MANUAL

No. SX670MDX3H///



MD-X3H

- SRS technology licensed from SRS Labs. SRS technology holds the following patents: U.S. Patent No. 4,748,669, U.S. Patent No. 4,841,572 and U.S. Patent No. 4,866,774.
- **SRS**, the SRS Logo (●) and the **SOUND RETRIEVAL SYSTEM** are registered trademarks of SRS Labs, Inc.

DOLBY B NR

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- "DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

MiniDisc COMPACT disc DIGITAL AUDIO

- In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified should be used.

CONTENTS

	Page
SAFETY PRECAUTION FOR SERVICE MANUAL (FOR UK ONLY)	2
IMPORTANT SERVICE NOTES (FOR UK ONLY)	3
SPECIFICATIONS	4
NAMES OF PARTS	4
OPERATION MANUAL	7
DISASSEMBLY	10
REMOVING AND REINSTALLING THE MAIN PARTS	15
ADJUSTMENT	17
EXPLANATION OF ERROR DISPLAY	28
NOTES ON SCHEMATIC DIAGRAM	30
WAVEFORMS OF CD CIRCUIT	31
BLOCK DIAGRAM	32
SCHEMATIC DIAGRAM/WIRING SIDE OF P.W.BOARD	38
WAVEFORMS OF MD CIRCUIT	75
TROUBLE SHOOTING	77
FUNCTION TABLE OF IC	83
WIRING OF PRIMARILY SUPPLY LEADS (FOR UK ONLY)	98
PARTS GUIDE/EXPLODED VIEW	
PACKING OF THE SET (FOR UK ONLY)	

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

SPECIFICATIONS

■ Main unit section

(MiniDisc recorder)

Type:	MiniDisc recorder
Signal readout:	Non-contact, 3-beam semi-conductor laser pick-up
Audio channels:	Stereo 2 channels/monaural (long-play mode) 1 channel
Frequency response:	20 - 20,000 Hz (+1/–3 dB)
Rotation speed:	400 - 900 rpm CLV, Approx.
Quantization:	16-bit linear
Filter:	8-times oversampling digital filter
Error correction:	ACIRC (Advanced Cross Interleave Reed-Solomon Code)
Coding:	ATRAC (Adaptive Transformed Acoustic Coding)
Recording method:	Magnetic modulation overwrite method
D/A converter:	1-bit
Sampling frequency:	44.1 kHz
Wow and flutter:	Unmeasurable (less than 0.001% W. peak)
Signal/noise ratio:	95 dB (1 kHz)
Dynamic range:	90 dB (1 kHz)
T. H. D at 1 kHz:	0.1%

(Compact disc player)

Type:	3 disc multi-play compact disc player
Signal readout:	Non-contact, 3-beam semi-conductor laser pickup
Rotational speed:	200 - 500 rpm CLV, Approx.
Error correction:	CIRC (Cross Interleave Reed-Solomon Code)
Quantization:	16-bit linear
D/A converter:	1-bit
Filter:	8-times oversampling digital filter
Frequency response:	20 - 20,000 Hz (+1/–3 dB)
Signal/noise ratio:	95 dB (1 kHz)
Dynamic range:	90 dB (1 kHz)
Wow and flutter:	Unmeasurable (less than 0.001% W. peak)

(Tuner)

Frequency range:	FM; 87.5 - 108 MHz AM; 522 - 1,620 kHz
Sensitivity:	FM; 2.5 μV (75 ohms, unbalanced) AM; 650 μV/m

(Tape deck)

Tape:	Compact cassette tape
Frequency response:	50 - 14,000 Hz (Normal tape) 50 - 15,000 Hz (CrO_2 tape)
Motor:	DC motor with electronic governor ×1
Signal/noise ratio:	50 dB (recording/playback)
Bias and erasure system:	AC
Head:	Playback/recording ×1 Erase ×1
Wow and flutter:	0.15 % (WRMS)

(General)

Power source:	AC 230 V, 50 Hz
Power consumption:	250 W
Output power:	RMS; 100 W (50 W + 50 W) (10% T.H.D.)
Input terminals:	AUX (analogue); 200 mV/47 kohms AUX (optical/digital)
Output terminals:	Headphones; 16- 50 ohms (recommended; 32 ohms) Speakers; 8 ohms AUX (Analogue); 2.0 V (1 kohm) AUX (Optical/digital)
Dimensions:	Width; 270 mm (10-11/16") Height; 351 mm (13-7/8") Depth; 332 mm (13-1/8")
Weight:	9.8 kg (21.6 lbs.)

■ Speaker section

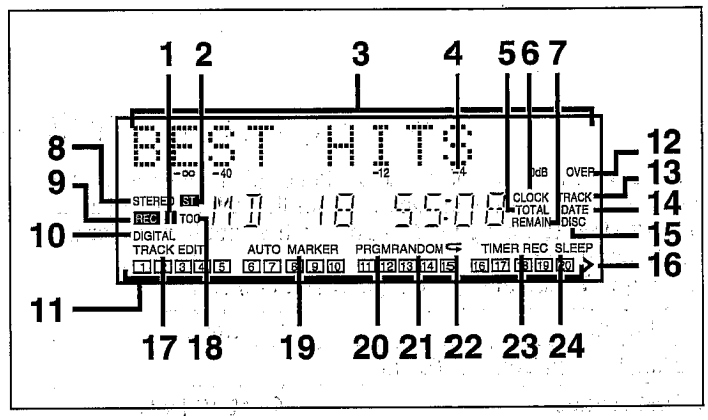
Type:	2-way 130 mm (5") woofer and 65 mm (2-1/2") tweeter type
Maximum input power:	100 W
Rated input power:	50 W
Impedance:	8 ohms
Dimensions:	Width; 210 mm (8-5/16") Height; 351 mm (13-7/8") Depth; 268 mm (12-1/8")
Weight:	4.9 kg (10.8 lbs.)/each

Specifications for this model are subject to change without prior notice.

NAMES OF PARTS

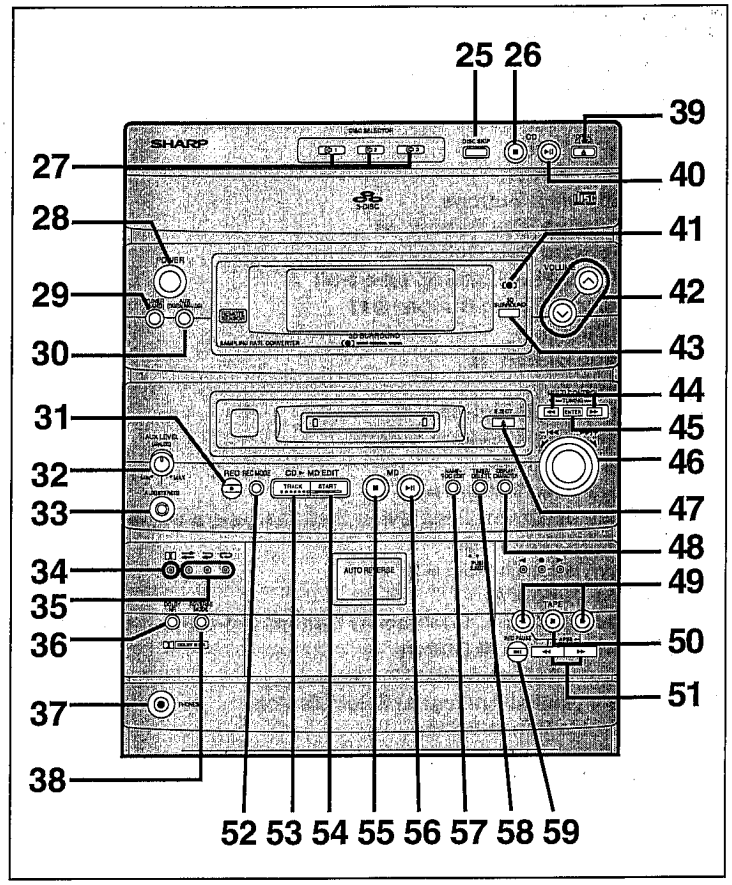
● Display window

1. **MD Pause Indicator: ▮▮**
2. **FM Stereo Indicator: ST**
3. **Level Meter/Character Information Display**
4. **Recording Level Indicator**
5. **Total Time Indicator**
6. **Clock Indicator**
7. **Remaining Time Indicator**
8. **FM Stereo Mode Indicator**
9. **MD Record Indicator: REC**
10. **Digital/Digital Edit Indicator**
11. **Music Schedule/Preset Number Indicators**
12. **Recording Level Too High Indicator**
13. **Track Name Indicator**
14. **Date Indicator**
15. **Disc Name Indicator**
16. **More Tracks Indicator**
17. **Track Editing Indicator**
18. **MD TOC Indicator**
19. **Auto Mark Indicator**
20. **Programme Indicator**
21. **Random Play Indicator**
22. **Repeat Indicator: ⇄**
23. **Timer/Timer Record Indicator**
24. **Sleep Indicator**



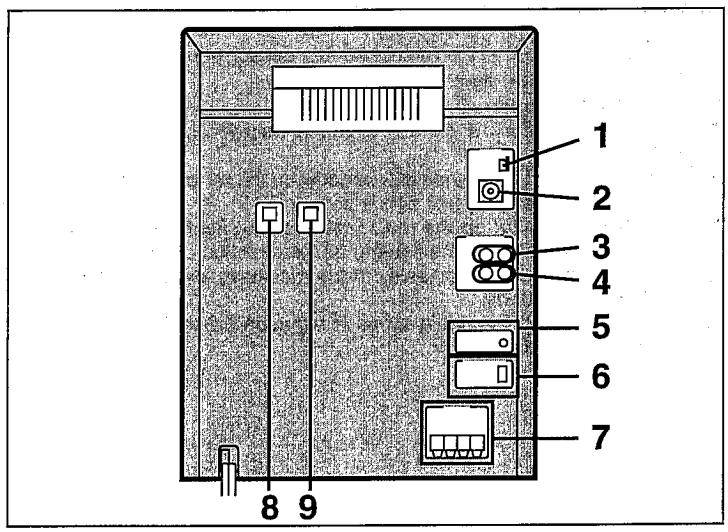
● Front panel

25. CD Disc Skip Button
26. CD Stop Button: ■
27. CD Disc Select Buttons
28. Power Switch
29. Tuner Call (Band Select) Button
30. Auxiliary Input (Digital/Analogue) Select Button
31. MD Record Button: ●
32. Auxiliary Level (Analogue) Control
33. Auxiliary (Stereo) Socket
34. Dolby NR Indicator
35. Tape Direction Indicators
36. Dolby NR Button
37. Headphones Socket
38. Reverse Mode Button
39. CD Open/Close Button: ▲
40. CD Play/Pause Button: ▶II
41. 3D Surround Indicator
42. Volume Up/Down Buttons: ∨/∧
43. 3D Surround Button
44. Tuning Up/Down, CD Cue/Review Buttons: ◀◀/▶▶
45. Enter Button
46. Jog Dial
47. MD Eject Button: ▲
48. Display/Character Button
49. Tape Reverse Play Button: ◀
    Tape Forward Play Button: ▶
50. Tape Stop Button: ■
51. Tape Fast Wind Buttons: ◀◀/▶▶
52. MD Record Mode Select Button
53. CD Track Select Button
54. CD Edit Button
55. MD Stop Button: ■
56. MD Play/Pause Button: ▶II
57. Name TOC-Edit Button
58. Timer/Delete Button
59. Tape Record/Pause Button: ●II



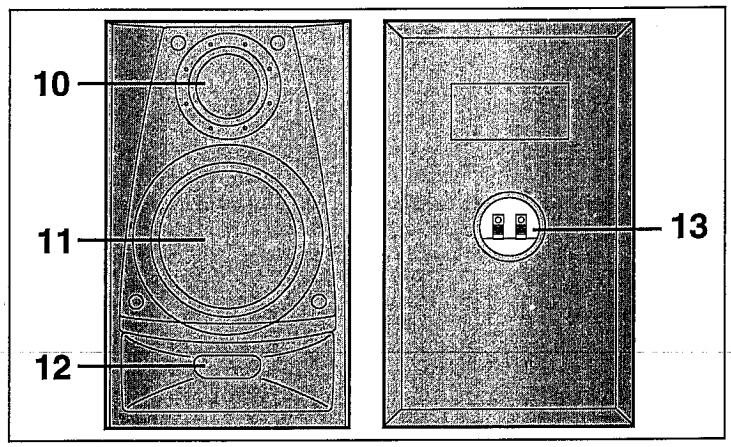
● Rear panel

1. AM Loop Aerial Input Socket
2. FM 75 ohms Aerial Socket
3. Analogue Output Sockets
4. Analogue Input Sockets
5. Reset Button
6. Beat Cancel Switch
7. Speaker Terminals
8. Digital Output Socket
9. Digital Input Socket



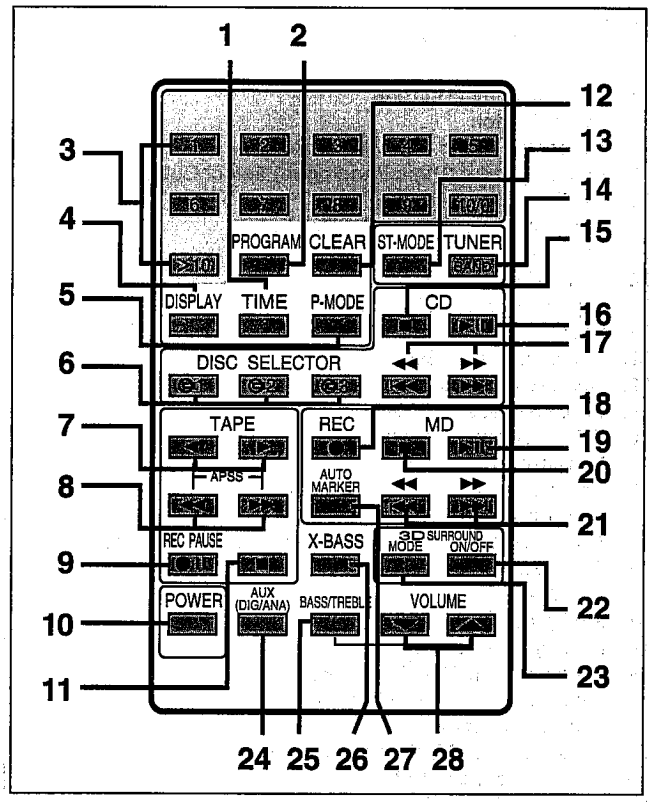
● Speaker section

10. Tweeter
11. Woofer
12. Bass Reflex Duct
13. Speaker Terminals



■ Names of controls

1. Time Display Select Button
2. Programme Button
3. Tuner Preset/CD/MD Track Number Input Buttons
4. Display Button
5. Play Mode Button
6. CD Disc Select Buttons
7. Tape Reverse Play Button: ◀
   Tape Forward Play Button: ▶
8. Fast Wind/APSS Buttons: ⏮/⏭
9. Tape Record/Pause Button: ●II
10. Power Button
11. Tape Stop Button: ■
12. Clear Button
13. FM Stereo Mode Button
14. Tuner Call (Band Select) Button
15. CD Stop Button: ■
16. CD Play/Pause Button: ▶II
17. CD Track Up/Down, Cue/Review Buttons: ⏮/⏭, ◀◀/▶▶
18. MD Record Button: ●
19. MD Play/Pause Button: ▶II
20. MD Stop Button: ■
21. MD Track Up/Down, Cue/Review Buttons: ⏮/⏭, ◀◀/▶▶
22. 3D Surround On/Off Button
23. 3D Surround Mode Select Button
24. Auxiliary (Digital/Analogue) Select Button
25. Bass/Treble Select Button
26. X-BASS Button
27. Auto Mark Button
28. Volume Buttons: ∨/∧

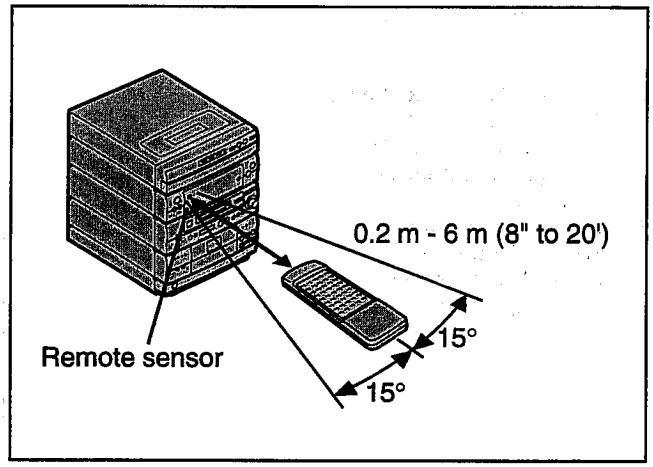


■ Proper use of the remote control

Aim the remote control at the remote control sensor within 30°, with no obstacles, and operate as shown.

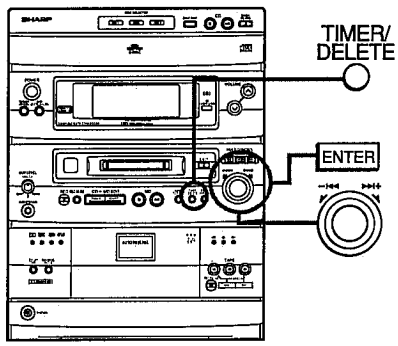
Notes concerning use:

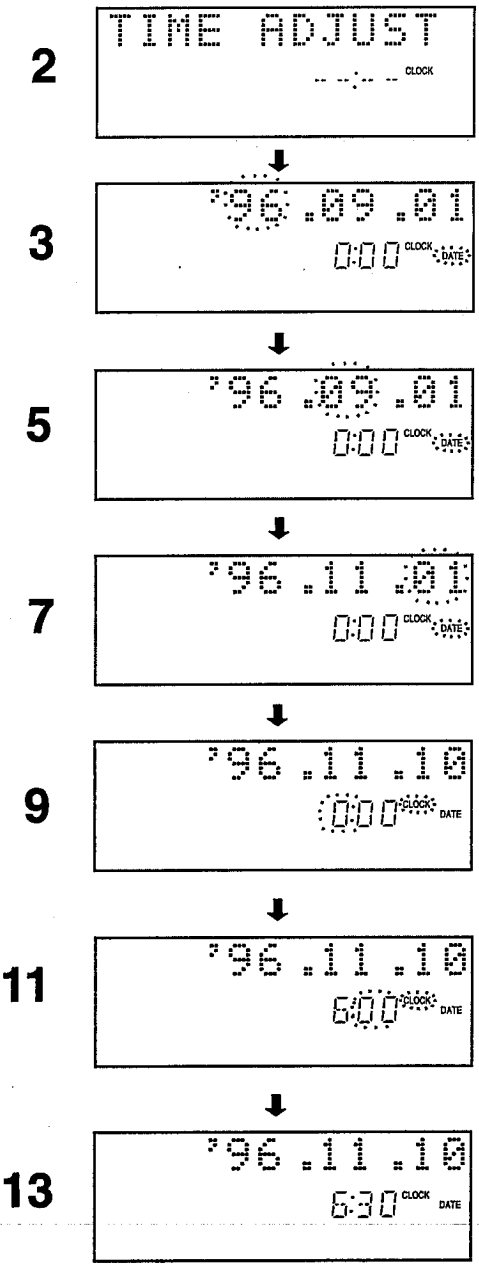
- Replace the battery if control distance decreases or operation becomes erratic.
- Periodically clean the transmitter window on the remote control and the sensor on the main unit with a soft cloth.
- Exposing the sensor on the main unit to strong light may interfere with operation. Change the lighting or the direction of the unit.
- Keep the remote control away from moisture, excessive heat, shock, and vibrations.
- The remote control's usable range is between 0.2 m (8") and 6 m (20') away from the sensor.



OPERATION MANUAL

SETTING THE CLOCK





Main unit operation

- When the AC power lead is first connected, the clock indicator will display "TIME-ADJUST".

1 Turn the power on, and press the TIMER/DELETE button.

2 Within 10 seconds, turn the jog dial until the TIME ADJUST display appears.

3 Within 10 seconds, press the ENTER button.
- The unit enters date setting mode.

4 Adjust the year by turning the jog dial.
- Turn the dial one click to advance the time by one year. Keep turning the dial to advance continuously.
- For a year after 2000, set "00" for 2000, "01" for 2001 and so on.

5 Press the ENTER button to set the year.

6 Adjust the month by turning the jog dial.

7 Press the ENTER button to set the month.

8 Adjust the day by turning the jog dial.

9 Press the ENTER button to set the date.
- The unit enters time setting mode.

10 Adjust the hour by turning the jog dial.
- Turn the dial one click to advance the time by one hour. Keep turning the dial to advance continuously.

11 Press the ENTER button to set the hour.

12 Adjust the minute by turning the jog dial.

13 Press the ENTER button to set the minute.
- The clock starts operating.

Notes:
- In the event of a power failure or when the AC power lead is disconnected, the clock setting will be lost. Reset the time.
- Whilst recording an MD, you cannot set the date and clock. Be sure to set the date and clock before recording.

To change the setting
- Once you have set the date and time, "TIME ADJUST" will not be displayed in step 2. Turn the jog dial to make the date and time appear.
- If you don't need to change the settings, just press the ENTER button without turning the jog dial again.

To check the date and time

Press the TIMER/DELETE button, and turn the jog dial until the date and time appear.

MINIDISC SYSTEM LIMITATIONS

Even if the maximum recording time of a MiniDisc is not been reached, "DISC FULL" or "TOC FULL" may be displayed.	When the number of tracks used reaches the limit, regardless of the remainder recording time, further recording will be impossible. (Maximum number of tracks: 254)
Even if the number of tracks and the recording time have not reached the limit, "DISC FULL" may be displayed.	When emphasis information (equalizer treatment in the treble section) in a track switches on/off many times, each change is assumed to be the beginning of a new track, which will quickly use up all available track numbers, making further recording impossible, regardless of the remaining time, recording time or the number of tracks on the original.
Even if several short tracks are erased, the remaining recording time may not show an increase.	When the remaining recording time of a disc is displayed, short tracks less than 12 seconds long may not be included in the total.
Two tracks may not be combined in editing.	For MiniDiscs on which repeated recording and editing operations were performed, the COMBINE function may not work.
The total of the recorded time and time remaining on a disc may not add up to the maximum possible recording time.	A cluster (about 2 seconds) is normally the minimum unit of recording. So, even if a track is less than 2 seconds long, it will use about 2 seconds of space on the disc. Therefore, the time actually available for recording may be less than the remaining time displayed. If there are scratches on a disc, those sections will be automatically avoided (no recording will be placed in those sections). Therefore, recording time will be reduced.

TROUBLE SHOOTING

■ If a problem occurs

If this unit functions abnormally during operation, first check the following items. If the unit continues to function abnormally, or if an abnormality appears other than listed below, turn off the player's power and disconnect the AC power plug, then consult your SHARP dealer or service personnel.

General

SYMPTOM	POSSIBLE CAUSE	REMEDY
• The clock is wrong.	• Did a power failure occur?	• Try setting it again.
• When a button is pressed, the unit does not respond.	—	• Turn the power off and on again, and then retry the operation.
• No sound is heard.	• Are the speaker leads disconnected?	• Connect the leads securely.
	• Are the leads of the speaker lead shorted?	• Disconnect the AC power lead, and connect it again.
	• Is the volume level is set to "0"?	• Increase the volume level.
	• Are the headphones connected?	• Disconnect the headphones.
• Radios make unusual noise or the picture on the TV screen is distorted.	• When a radio or TV which uses an indoor aerial is placed near the unit, the picture on the TV screen may be distorted or the radio may not function properly.	• It is recommended that you use an external aerial.

CD playback

SYMPTOM	POSSIBLE CAUSE	REMEDY
• Even though a disc has been loaded, "NO DISC" or "ERROR" is displayed.	• The disc is loaded up-side down.	• Load the disc with the correct side up.
	• The disc is very dirty.	• Clean the disc.
• Playback stops in the middle of a track, or playback is not performed properly.	• The disc which does not satisfy the standards.	• Load the correct disc.
	• Is the unit located near excessive vibrations?	• Place the unit on a firm, level surface free from vibration.
• Playback sounds are skipped.	• Has condensation formed inside the unit?	• Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

MD recording and playback

SYMPTOM	POSSIBLE CAUSE	REMEDY
• A recording cannot be made.	• Is the MiniDisc protected against accidental erasure?	• Slide the accidental erase prevention tab back to its original position.
	• Did you try to make recording on a playback-only MiniDisc?	• Replace it with a recordable disc.
	• Can you see the "TOC FULL" message in the display?	• Put in another recordable disc with recording space on it.
• Even though a disc has been loaded, "NO DISC" or "ERROR" is displayed.	• The disc is very dirty.	• Clean the disc.
	• Is the unit located near excessive vibrations?	• Place the unit on a firm, level surface free from vibration.
• Playback sounds are skipped.	• Has condensation formed inside the unit?	• Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

Tape recording and playback

SYMPTOM	POSSIBLE CAUSE	REMEDY
• A recording cannot be made.	• Is the tape protected against accidental erasure?	• Cover the accidental erase prevention hole.
• Sound is skipped.	• The tape is wrinkled.	• Replace the tape.
• Sound in hihg-frequency range cannot be reproduced.	• The capstan and pinch roller are very dirty.	• Clean the capstan and pinch roller.
• Sound quivers.		
The cassette cannot be ejected.	• Did a power failure occur?	• Wait until the power is supplied.

Radio Reception

SYMPTOM	POSSIBLE CAUSE	REMEDY
• Radios make unusual noise consecutively.	• The unit is placed near the TV or computer.	• Place the unit apart from the noise.
	• The aerial direction is not placed properly.	• Correct the aerial direction.
• The preset channel cannot be called.	• Did a power failure occur?	• Preset the channel again.

Remote control

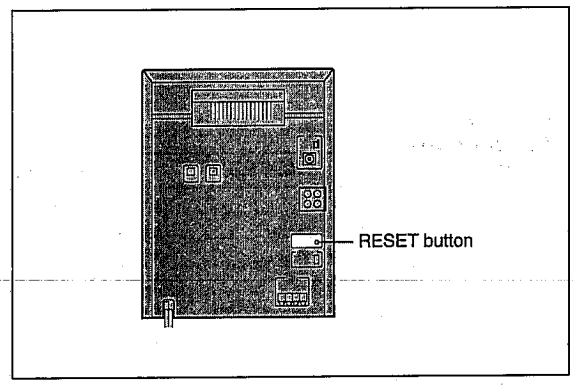
SYMPTOM	POSSIBLE CAUSE	REMEDY
• The remote control does not function or does not operate properly.	• The batteries (polarity) are not inserted properly.	• Insert properly.
	• The batteries inside the remote control are dead.	• Replace the batteries.
	• The remote control is operated from an incorrect distance or angle.	• Operate it within a range of 0.2 m (8") to 6 m (20') and within an angle of 15° to either side of centre.
• The power cannot be turned on from the remote control.	• Is the AC power lead plugged in?	• Connect the AC power lead.

(Continued)

When an error message is displayed, proceed as follows:

Error messages	Meaning	Remedy
NO DISC	• A disc has not been loaded.	• Load a disc.
	• The disc data cannot be read.	• Reload the disc.
DISC ERR	• The disc is damaged or there is no TOC on the disc.	• Reload the disc or replace it.
BLANK MD	• Nothing is recorded.	• Replace the disc with a recorded disc.
0 00:00	• Music is not being recorded.	• Replace the disc with a recorded disc.
EDIT OVER	• There is no space left for recording CD.	• Replace it with another recordable disc.
? DISC	• The data contains an error.	• Replace the disc with another disc.
TOC ERR*	• The disc has a large amount of damage.	• Replace the disc with another disc.
DISC FULL	• The disc is out of recording space.	• Replace the disc with another recordable disc.
PLAYBACK MD	• You tried to record on a playback-only disc.	• Replace it with a recordable disc.
PROTECTED	• The disc is write protected.	• Move the write protection tab back to its original position.
TOC FULL*	• There is no space left for recording character information (track names, disc names, etc.)	• Replace it with another recordable disc.
Can't REC	• Recording cannot be performed correctly due to vibration or shock in the unit.	• Rerecord or replace it.
Din UNLOCK	• Incorrect digital signals are input.	• Connect correct digital signals.
Can't COPY	• No copy can be made because of the SCMS copyright system.	• Record using the analogue cable.
Can't EDIT	• A track cannot be edited.	• Change the stop position of the track and then try editing it.
TEMP OVER	• The temperature is too high.	• Turn off the power, and wait for a whilst.
DEFECT	• Since this disc has scratches on it, the recording operation was skipped.	• Replace the disc with another recordable disc.
NAME FULL	• The number of characters for the disc name or track name exceeds 40.	• Shorten the disc or track name.
MECHA ERR*	• There is a mechanical problem and the disc is not working properly.	• Turn off the power, and press the EJECT button.
NOT AUDIO	• The data recorded on this disc is not audio data.	• Select another track. • Replace the disc.
U TOC W ERR	• The TOC information could not be created properly due to a mechanical shock or to scratches on the disc.	• Turn off the power, and try to write the TOC again. (Remove any source of shock or vibration whilst writing.)
U TOC ERR*	• The TOC information on this disc does not meet the MD specifications or it cannot be read.	• Replace it with another disc. • Erase all the data, and try recording.

*: Number or symbol



■ If a problem occurs

If this product is subjected to strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.) or if it is operated incorrectly, it may malfunction or the display may not function correctly. If such a problem occurs, do the following:

1 Unplug the AC power lead from the AC socket.

2 Press the RESET button on the back of the unit.

3 Plug the AC power lead back into the AC socket.

- When the RESET button is pressed, all of the settings in memory will be erased.
- If strange sounds, smells or smoke come out of the unit or if a foreign object falls into the unit, turn off the power, unplug the AC power lead from the AC socket, immediately. Contact the shop where you purchased the unit.

DISASSEMBLY

Caution on Disassembly

When disassembling the machine or assembling it after repair, observe the following instructions so as to ensure safety and keep its performance.

1. Unload the cassette tape, compact disc, and mini-disc from the machine.
2. Be sure to unplug the power cable before starting disassembly of the machine.
3. When disassembling each section, remove the nylon band or wire holder as necessary.
   When assembling after repair, be sure to restore the initial wire arrangement.
   If a screw of improper length is fit to the MD mechanism (a screw to fit the part to the mechanism chassis of MD section), it may contact the optical pickup, impeding normal operation. Hence, due care must be taken.
4. While repairing, pay utmost attention to static electricity on ICs.

MAIN UNIT

STEP	REMOVAL	PROCEDURE	FIGURE
1	Top Cabinet	1. Screw ..... (A1) x8	11-1
2	CD Player Unit	1. Flat wire ..... (B1) x1 2. Screw ..... (B2) x2 3. Screw ..... (B3) x2 4. CD Tray Cover ..... (B4) x1 5. Socket ..... (B5) x2 6. Set the disc tray as it was.	11-2
3	Rear Panel	1. MD Flexible PWB .. (C1) x1 2. Screw ..... (C2) x6	11-2
4	MD Unit	1. MD Flexible PWB .. (D1) x1 2. Screw ..... (D2) x2 3. Tip ..... (D3) x1	11-3
5	Main PWB	1. Knob ..... (E1) x1 2. Screw ..... (E2) x1 3. Screw ..... (E3) x1 4. Socket ..... (E4) x6 5. Socket ..... (E5) x2	11-3
6	SRS PWB	1. Socket ..... (F1) x2 2. Screw ..... (F2) x2	11-3
7	Front Panel	1. Socket ..... (G1) x1 2. Screw ..... (G2) x1 3. Lug wire ..... (G3) x1 4. Screw ..... (G4) x2 5. Pawl ..... (G5) x2	11-4
8	Power Sub PWB	1. Socket ..... (H1) x1 2. Screw ..... (H2) x4	11-4
9	Tape Mechanism	1. Open the Cassette Holder 2. Screw ..... (J1) x4	11-5
10	Display PWB	1. Screw ..... (K1) x6 2. Socket ..... (K2) x1	11-5
11	CD Switch PWB	1. Screw ..... (L1) x4 2. Bracket ..... (L2) x1	11-5
12	Dolby Switch PWB	1. Screw ..... (M1) x6 2. Holder ..... (M2) x2 3. Socket ..... (M3) x1 4. Pawl ..... (M4) x2	11-5
13	Volume Switch PWB/MD Switch PWB	1. Screw ..... (N1) x12 2. Pawl ..... (N2) x8 3. Knob ..... (N3) x1 4. Nat ..... (N4) x1	11-6
14	Power Switch PWB	1. Screw ..... (P1) x3 2. Pawl ..... (P2) x2	11-6
15	CD Servo PWB (Note 1)	1. Screw ..... (Q1) x3 2. Cover ..... (Q2) x1 3. Socket ..... (Q3) x5 4. Pawl ..... (Q4) x1	12-1
16	Loading Motor PWB	1. Drive Belt ..... (R1) x1 2. Screw ..... (R2) x2 3. Flat wire ..... (R3) x1 4. Socket ..... (R4) x1 5. Screw ..... (R5) x1 6. Bracket ..... (R6) x1 7. Pawl ..... (R7) x1	12-1
17	Senser PWB/ Tray Switch PWB	1. Pawl ..... (S1) x4	12-1
18	CD Block	1. Screw ..... (T1) x1 2. Bracket ..... (T2) x1 3. Screw ..... (T3) x2	12-1
19	CD Mechanism	1. Screw ..... (U1) x4	12-1
20	Turntable (Note 2)	1. Turn the loading gear in the arrow direction so that the disc tray is ejected. 2. Screw ..... (V1) x1	12-2
21	Disc Tray	1. Pawl ..... (W1) x2	12-2
22	MD Mechanism Unit	1. Screw ..... (X1) x4 2. MD Mechanisn Bracket .. (X2) x2 3. Screw ..... (X3) x4 4. Flexible PWB ..... (X4) x2	12-3
23	MD Main PWB (See page 13 Figure 13-3)	1. Screw ..... (Y1) x4 2. Flexible PWB ..... (Y2) x1 3. Socket ..... (Y3) x3	13-1
24	MD Mechanism	1. Screw ..... (Z1) x4 2. Screw ..... (Z2) x1 3. Spring ..... (Z3) x1 4. Cartridge Holder ..... (Z4) x1	13-2

Note 1. After removing the connector for the optical pickup from the connector wrap the conducitive aluminum foil around the front end of connector so as to protect the optical pickup from electrostatic damage.

Note 2. When removing or mounting the turntable, tighten the turntable fixing screw (VI) with a torque of about 6 kgcm.
Excessive tightening may cause deformation of the turntable rotating shaft Ⓑ .

SPEAKER

STEP	REMOVAL	PROCEDURE	FIGURE
1	Speaker	1. Net ..... (A1) x1 2. Net Holder ..... (A2) x4 3. Front Panel ..... (A3) x1 4. Screw ..... (A4) x4 5. Decoration Plate .... (A5) x1 6. Screw ..... (A6) x4 7. Screw ..... (A7) x4	14-1 14-2

MAIN UNIT

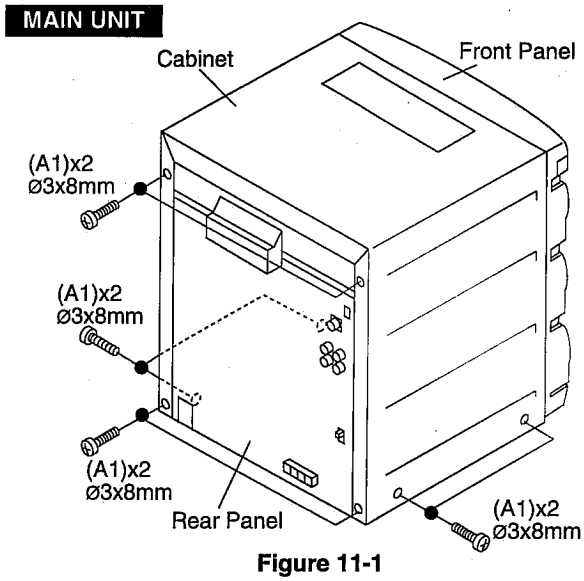


Figure 11-1

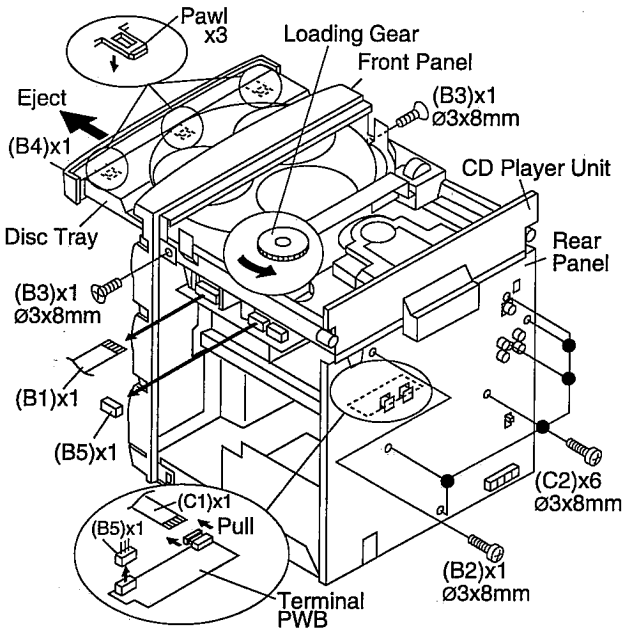


Figure 11-2

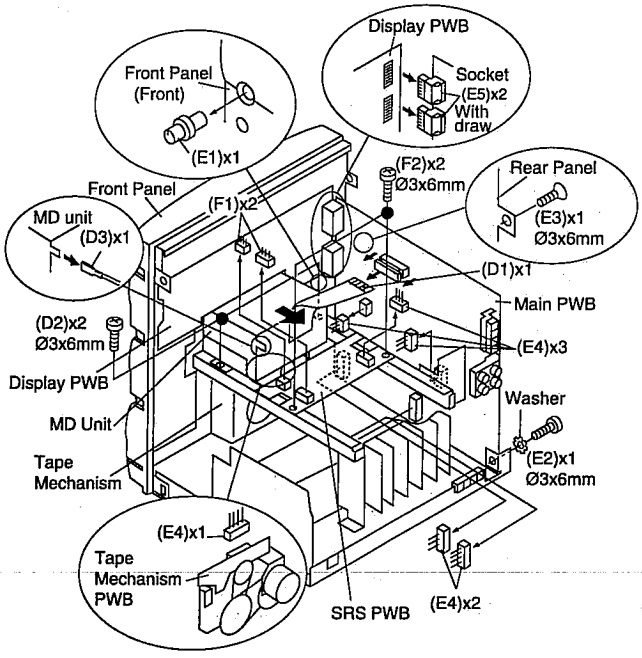


Figure 11-3

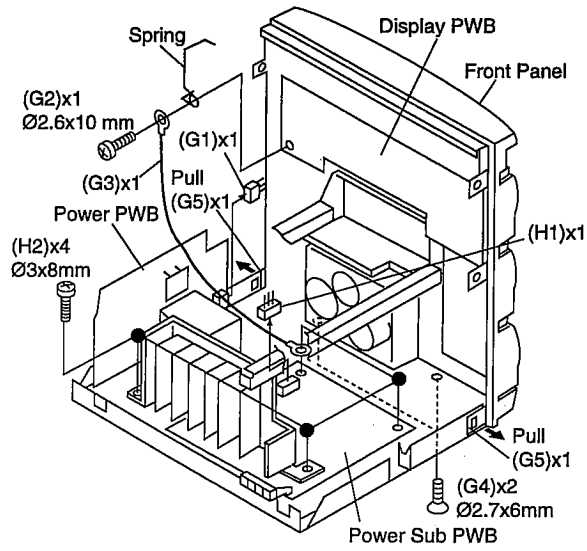


Figure 11-4

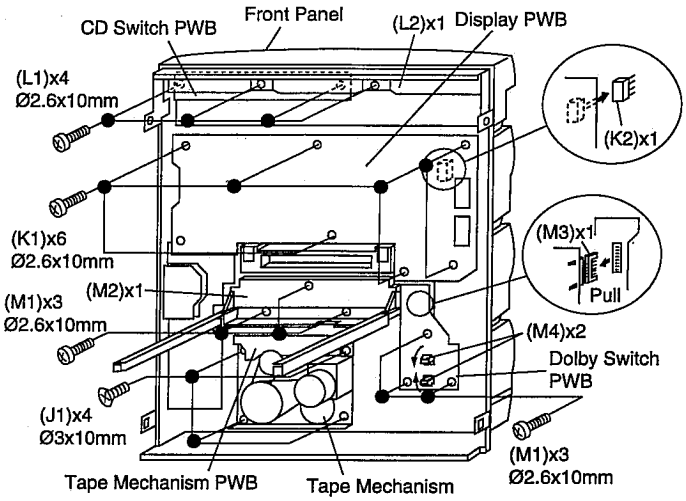


Figure 11-5

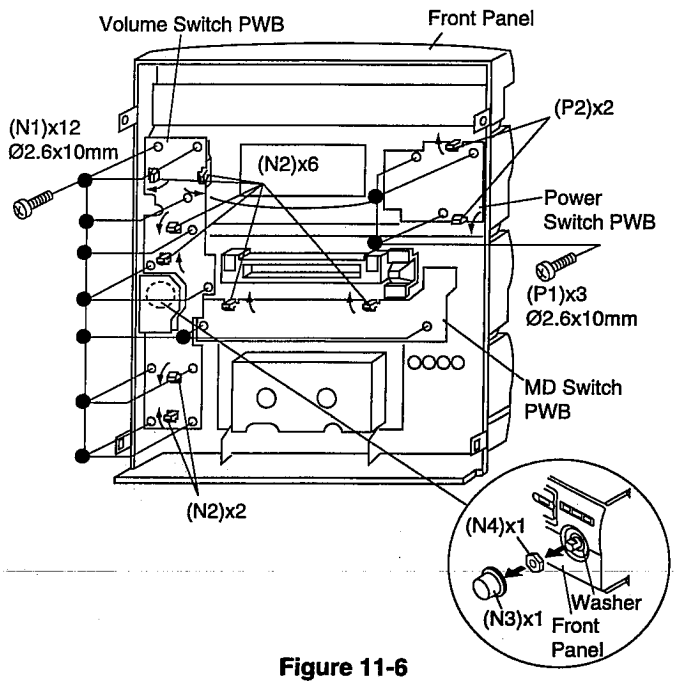


Figure 11-6

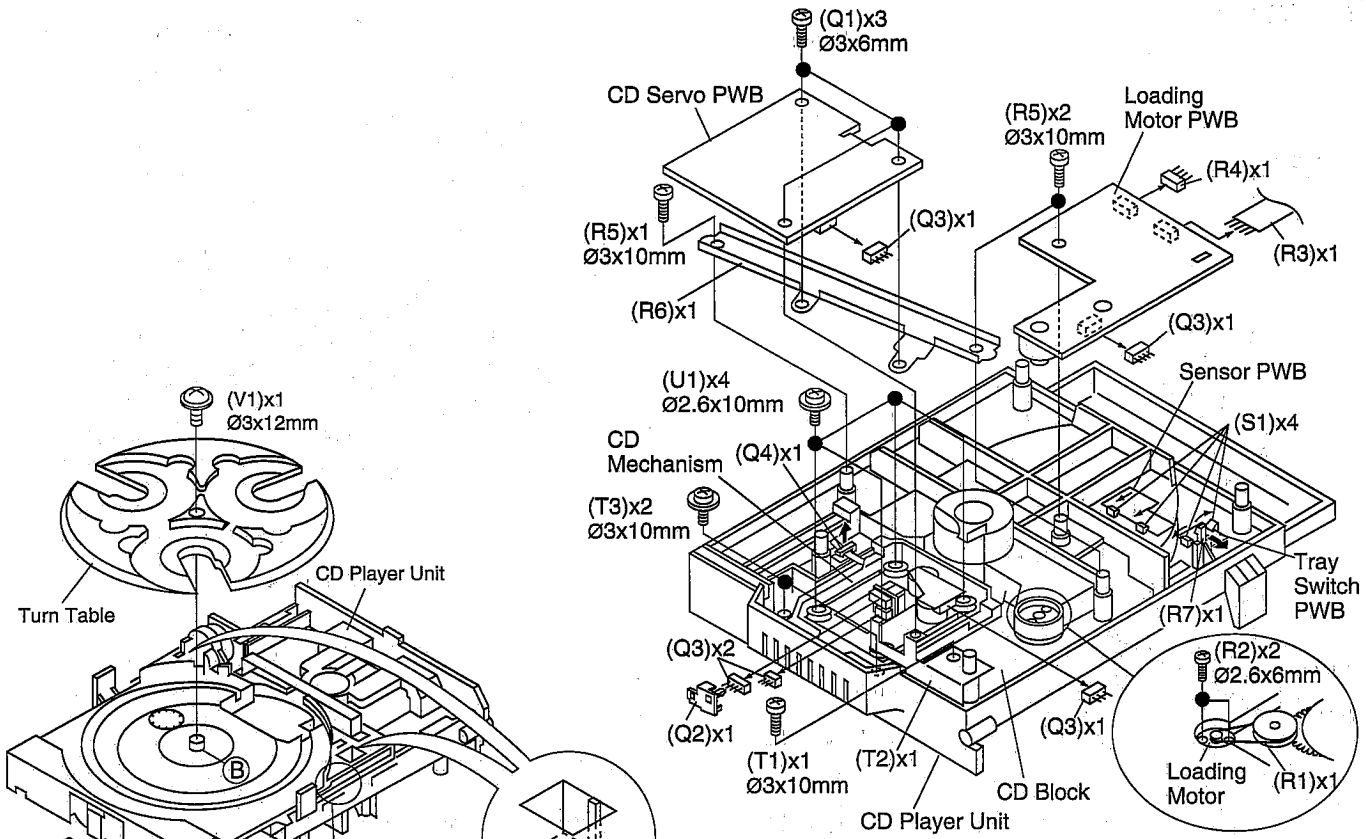


Figure 12-1

Figure 12-2

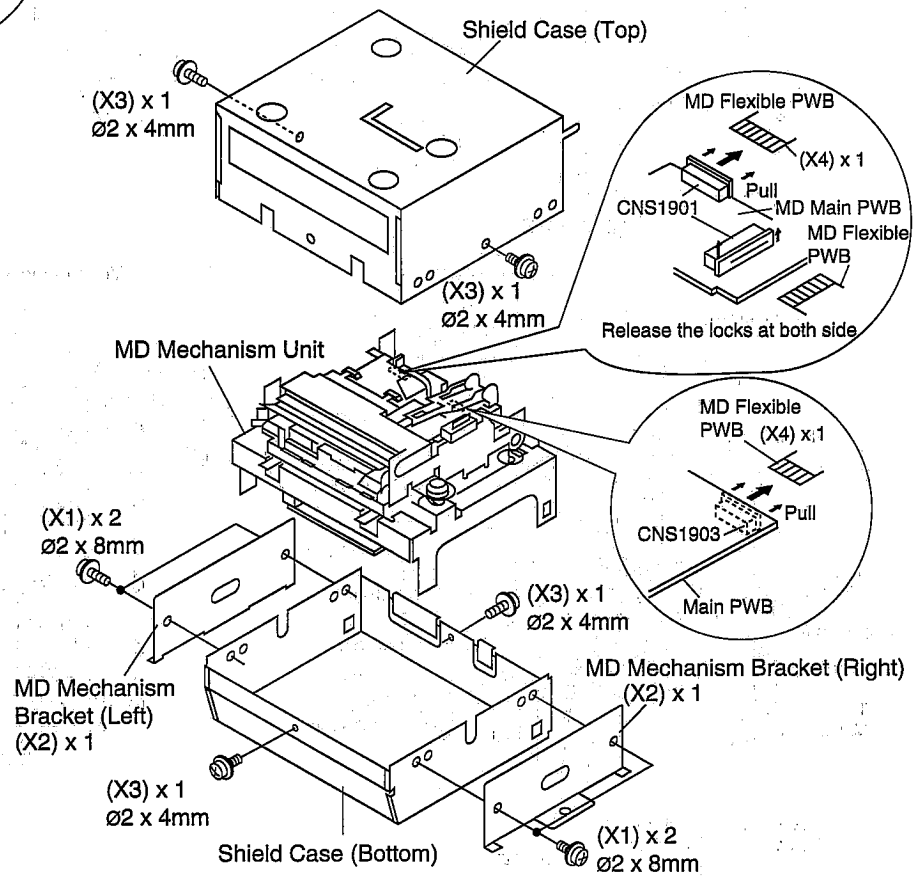
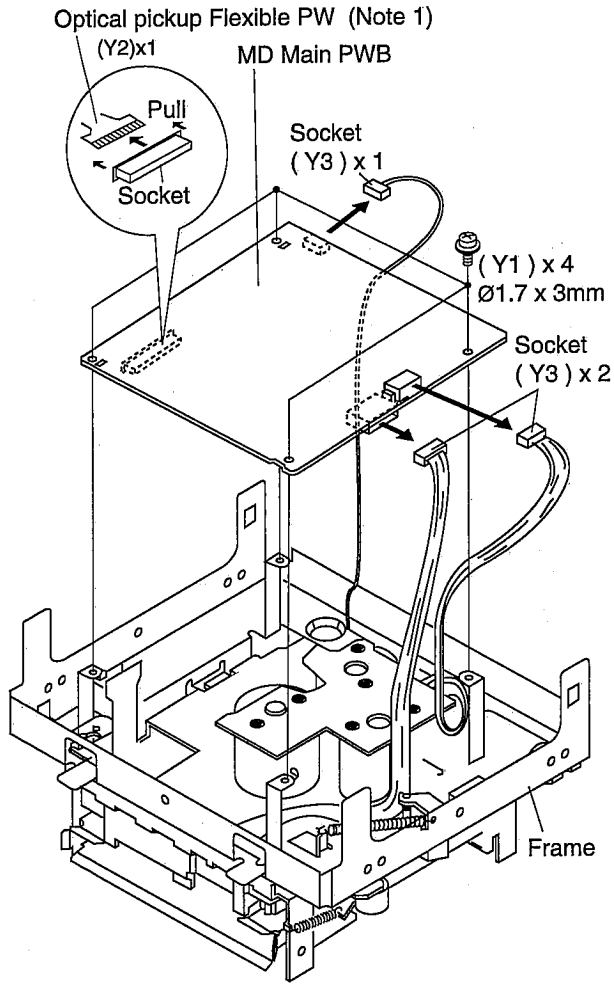


Figure 12-3



(Note 1) After removing the flexible PWB for optical pickup from the connector wrap the front end of flexible PWB in conductive aluminum foil so as to protect the optical pickup from being damaged electrostatically.

Figure 13-1

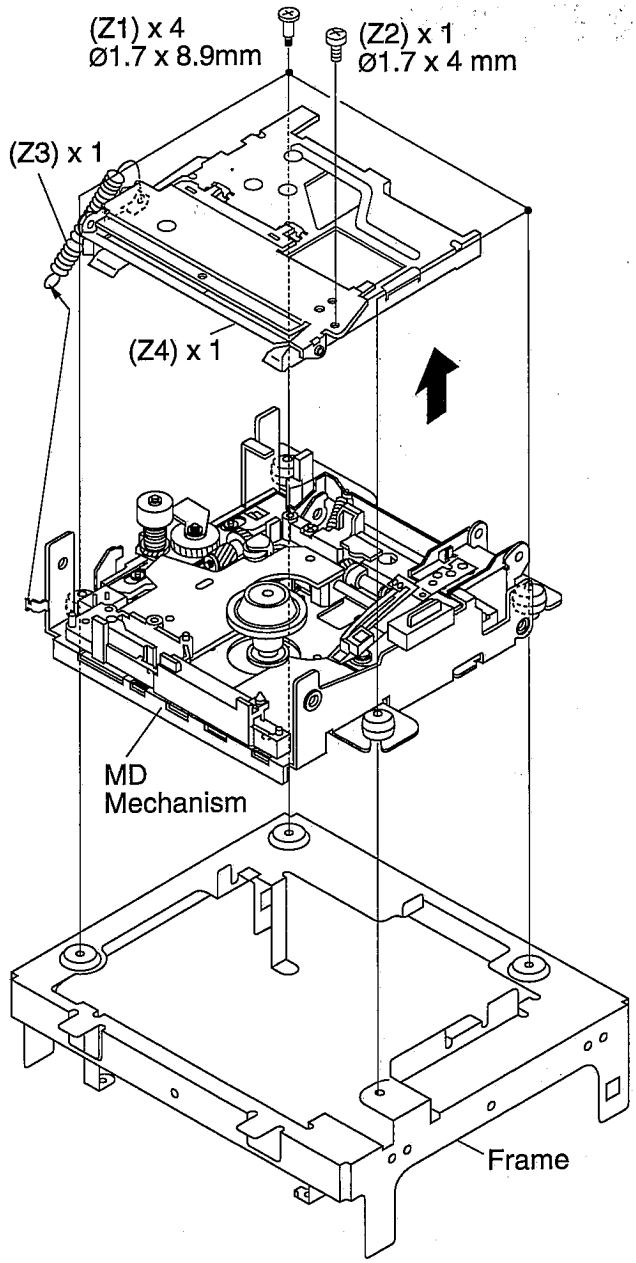
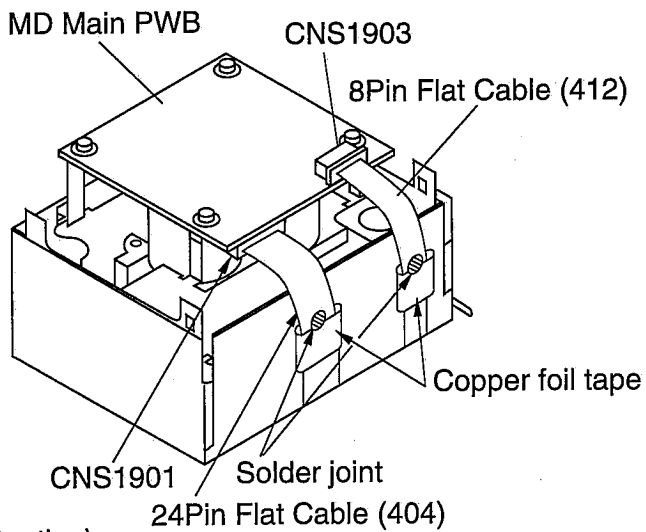


Figure 13-2



(Caution)
The copper foil tape is wound around the 24 pin flat cable (404) and the 8 pin flat cable (412) to ground them to the case. Fit them in the specified direction.

Figure 13-3

SPEAKER

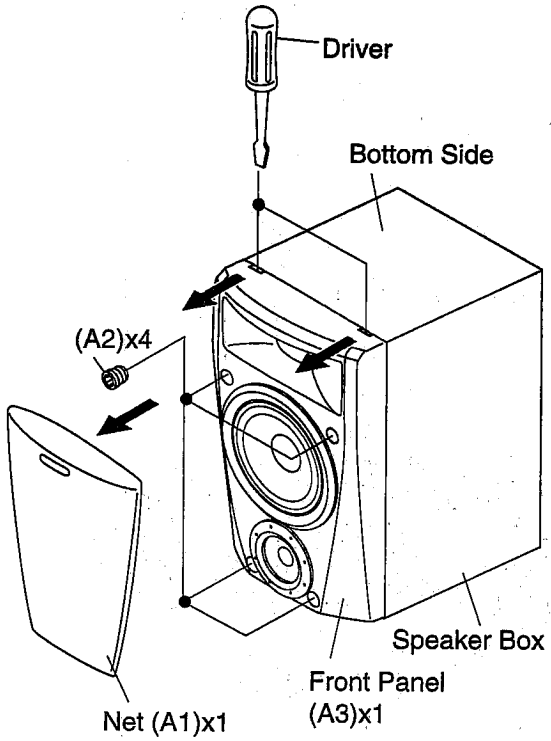


Figure 14-1

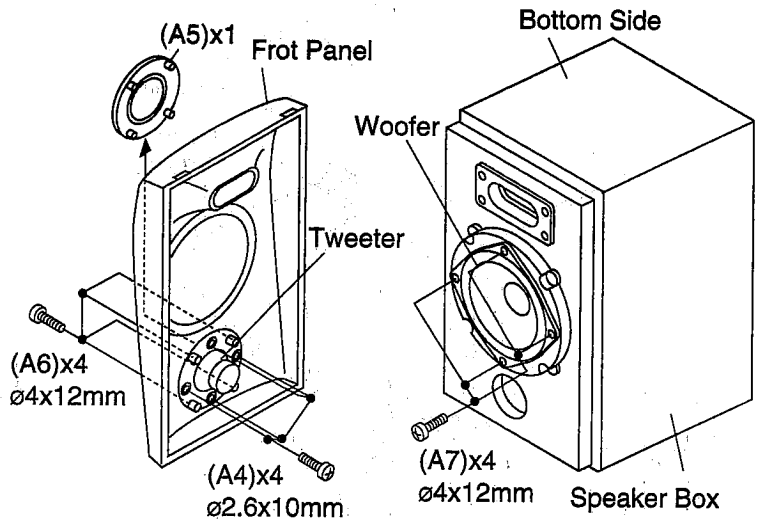


Figure 14-2

Releasing the mechanism lock (See Fig. 14-3.)

1. Remove the upper cabinet.
   (Refer to Disassembling Procedure (Figure 10-1).)
2. Once push the plunger with a thin screwdriver in the arrow direction (a click is heard).
3. Turn the flywheel with your finger in the arrow direction. Then, the head moves down, so that the cassette holder can be opened.

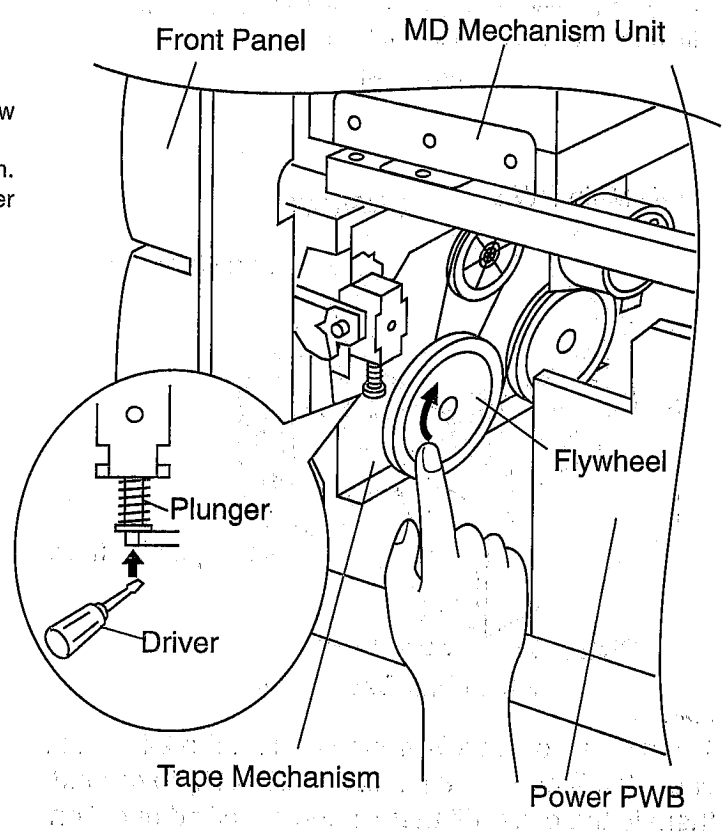


Figure 14-3

REMOVING AND REINSTALLING THE MAIN PARTS

MD MECHANISM SECTION

Remove the MD mechanism according to the disassembling procedure 1 to 4. (See p. 10.)

How to remove the motor PWB (See Fig. 15-1.)

1. Remove the solder joint (A1) x 6, and remove the motor PWB.

How to remove the disc motor (See Fig. 15-2.)

1. Remove the loading motor tightening screw, and disengage the spring (B1) x 1 engaged with the disc motor sleeve groove at the disc motor side.
2. Remove the screws (B2) x 3 pcs., and remove the disc motor.

Caution: Be careful so that the gear is not damaged. (The damaged gear emits noise during searching.)

How to remove the slide motor/loading motor (See Fig. 15-3.)

1. Remove the screw (C1) x 4 pcs., and remove the slide motor/loading motor.

Caution: Be careful so that the gear is not damaged. (The damaged gear emits noise during searching.)

How to remove the mechanism switch PWB (See Fig. 15-4.)

1. Remove the screw (D1) x 1 pc., (D2) x 2 pcs., and (D3) x 2 pcs., and remove the mechanism switch.

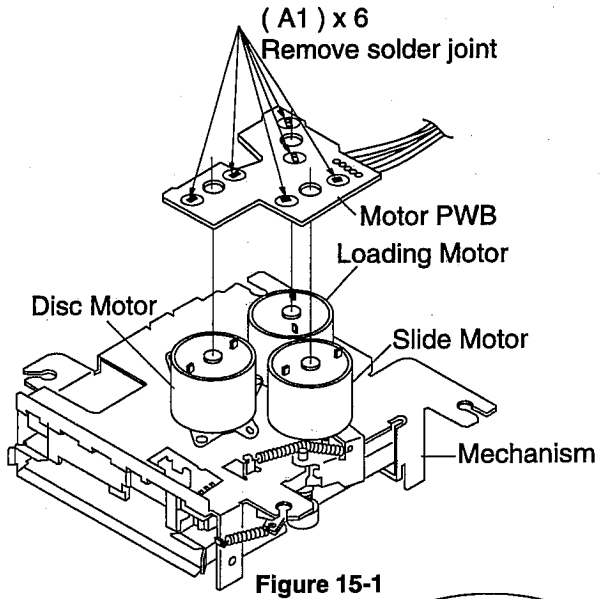


Figure 15-1

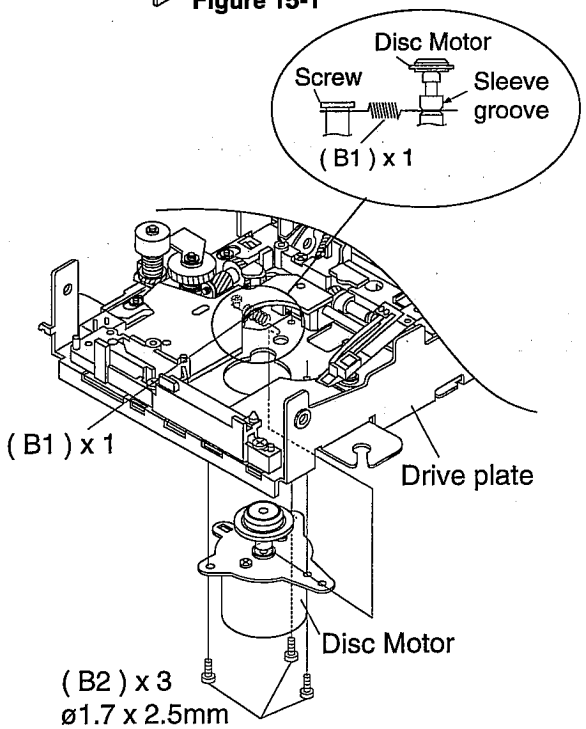


Figure 15-2

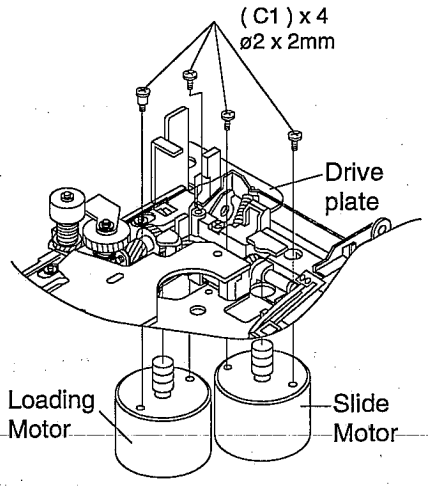


Figure 15-3

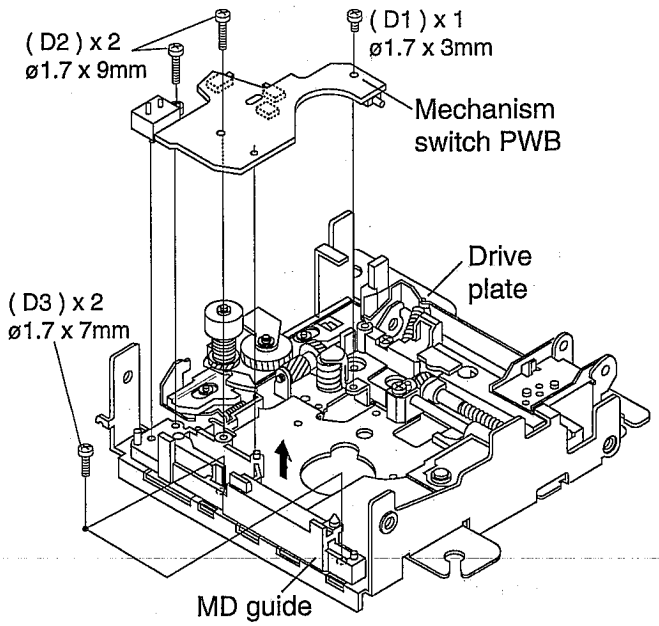


Figure 15-4

How to remove the optical pickup (See Fig. 16-1.)

1. Remove the screw (E1) x 3 pcs.

Caution:
Take utmost care so that the magnetic head is not damaged.

2. Slightly withdraw the MD pickup guide (E2) x 1 and its shaft (E3) x 1 pc., and slowly raise the optical pickup.

Caution:
Take care so that the gear is not damaged.
(The damaged gear emits noise during searching.)
Be careful so that the plate spring fitted to the shaft at the opposite side is not deformed.

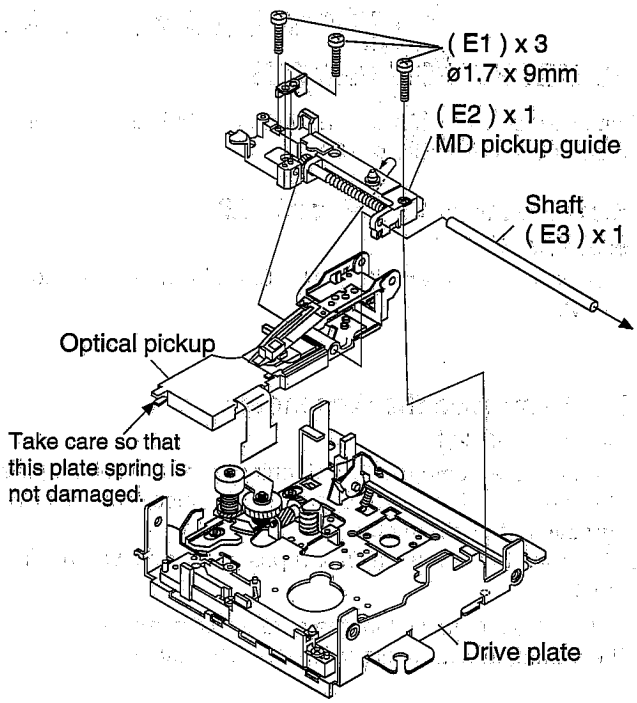

(E1) x 3
ø1.7 x 9mm
(E2) x 1
MD pickup guide
Shaft
(E3) x 1
Optical pickup
Take care so that this plate spring is not damaged.
Drive plate

Figure 16-1

How to remove the magnetic head (See Fig. 16-2.)

1. Remove the screw (F1) x 1 pc.
2. Remove the solder joint (F2) x 2 connecting the magnetic head to the head relay flexible board.

Caution:
Take utmost care so that the magnetic head is not damaged when it is mounted.

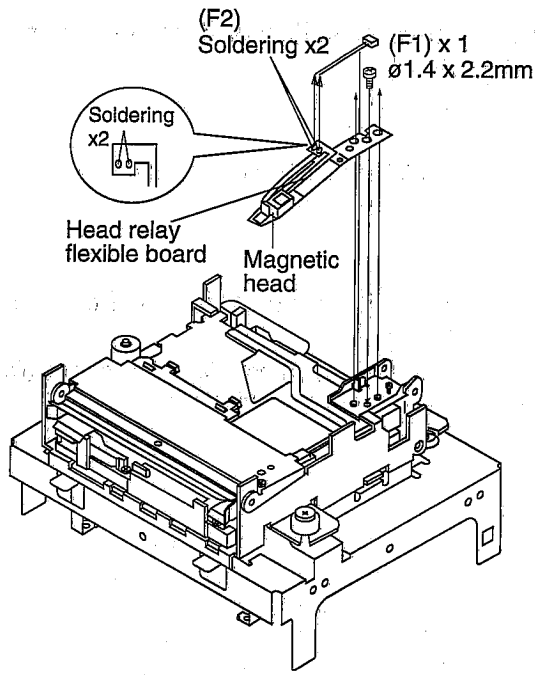


Figure 16-2

How to Replacing the loading pinch roller (See Fig. 16-3.)

1. Remove the fixing washer (G1) x 1 pc. with small precise screwdriver, and remove the loading pinch roller upward.

Caution:
The deformed or damaged fixing washer must be replaced with new one.

How to Cleaning the loading pinch roller (See Fig. 16-3.)

1. Impregnate swab with several drops of alcohol, and clean the loading pinch roller with it.
2. Before using make sure that the cleaned parts have dried sufficiently.

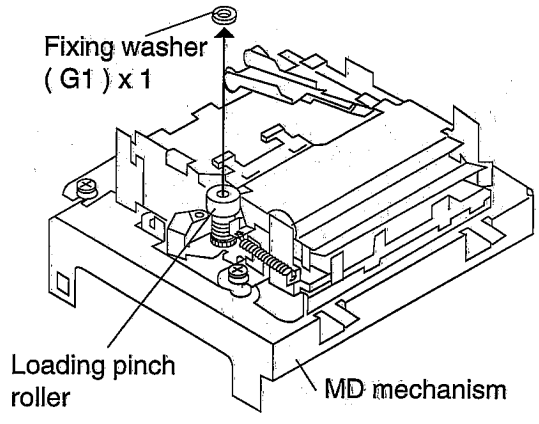


Figure 16-3

ADJUSTMENT

MECHANISM SECTION

• Driving Force Check

Torque Meter	Specified Value
Play: TW-2412	80 g or more
Reverse Play: TW-2422	80 g or more

• Checking the playback/FF/rewinding torque

Torque Meter	Specified Value
Play: TW-2111	25 to 65 g. cm
Reverse Play: TW-2121	25 to 65 g.cm
Fast forward: TW-2231	60 to 130 g.cm
Rewind: TW-2231	60 to 130 g.cm

• Adjusting the record/playback head azimuth

Test Tepe	Connection
MTT - 114	Input: L: TP201① R: TP201 ③

* Raise the cassette holder cover and remove it , and then adjust the azimuth.

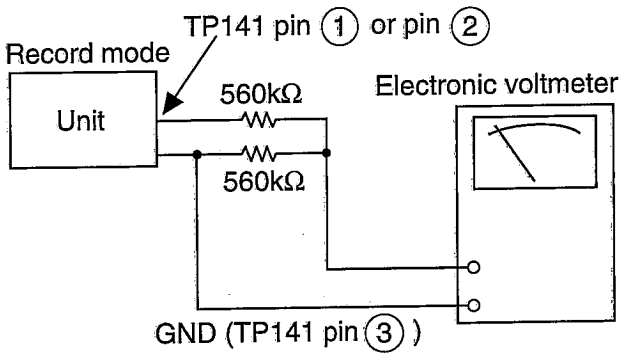


Figure 17-1 BIAS CURRENT

Adjusting the deck circuit

Position of switch or control	
VOLUME	Max
BASS	Center
TREBLE	Center
FUNCTION	Tape
TAPE	Normal
DOLBY NR	Off

• Checking the bias oscillation frequency

Adjusting object	Set value	Connection
—	102 ±7kHZ	TP141 ① or ②

• Checking the bias current

Adjusting object	Set value	Connection
L: VR101 R: VR102	Standard: 16 ± 3 mV	L: TP141 ① R: TP141 ②

• Adjusting the playback amplifier sensitivity

Test Tape	Connection	Set value	Connection
MTT-150	L: VR201 R: VR202	Standard: 300mV	L: TP201 ① R: TP201 ③

• Adjusting the record/playback amplifier sensitivity

Test Tape	Connection	Set value	Connection
UR-121	Record level control	100mV	Input: AUX (1kHz) Output: L: TP201 ① R: TP201 ③
	L: VR203 R: VR204	100mV	

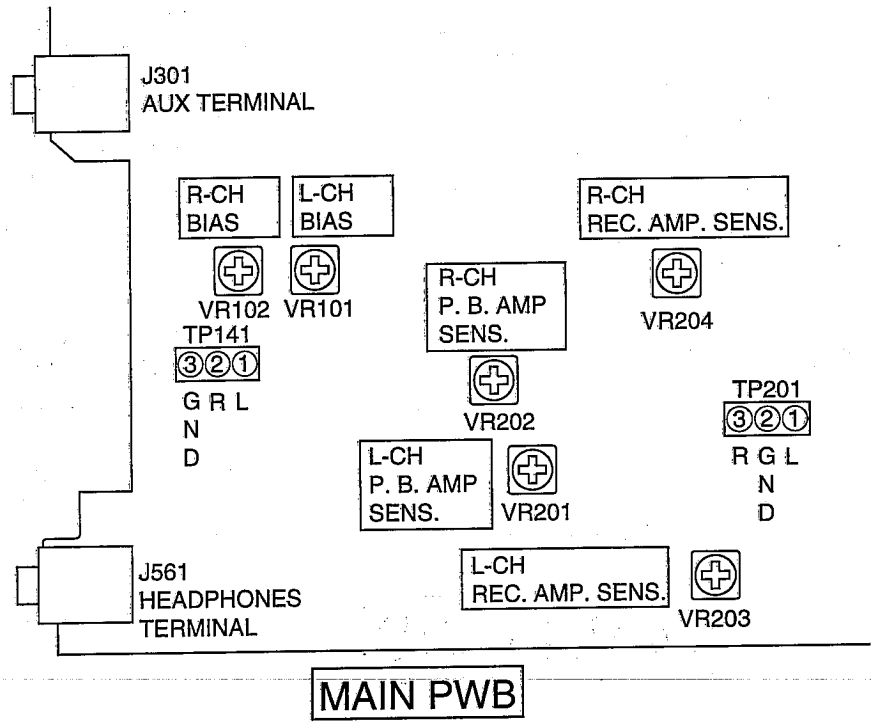


Figure 17-2 ADJUSTMENT POINTS

TUNER SECTION

fL: Low-range frequency
fH: High-renge frequency

• FM IF

Adjusting item	Adjusting object	Adjusting method
Detection	L21	Input: Pin 1 of TUN Output: Pin 19 of IC2

• VCO Frequency

Signal oscillator	Connection	Setting
Nonmodulation	Pin 14 of IC2	256kHz

• AM IF

Adjusting item	Adjusting object	Setting
IF	CF3	Set IF waveform 450 kHz to maximum.
Frequency cover (voltage of Q41 collector VT line)	fL: L2 (522kHz) (red core)	fL: 1.1 ± 0.1V fH: 8.5 ± 1.3V (Only check)
Tracking	fL: L1 (999kHz)	Set output of speaker terminal to maximum.

Reference

When the RESET button is pressed, frequency as shown in Table 18 is initially set in the memory. Call it with the MEMORY key of remote control to use for adjustment and checking of tuner circuit.

Tuner MEMORY key	AM	FM
1 ch	522kHz	87.50MHz
2 ch	1,620kHz	108.00MHz
3 ch	603kHz	90.00MHz
4 ch	1,404kHz	106.00MHz
5 ch	990kHz	98.00MHz
6 ch	522kHz	87.50MHz
7 ch	522kHz	108.00MHz
8 ch	522kHz	90.00MHz
9 ch	522kHz	106.00MHz
10 ch	522kHz	98.00MHz

Table 18 Memory initial setting

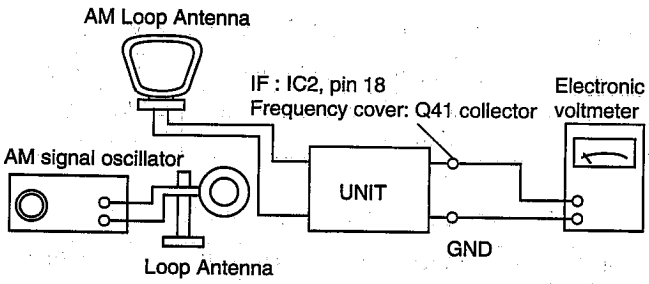


Figure 18-1 AM IF

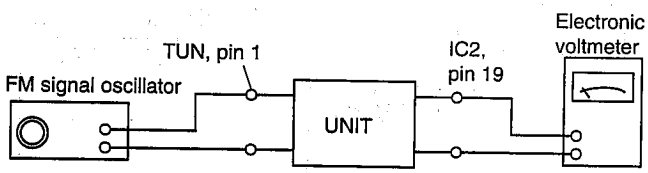


Figure 18-2 FM IF

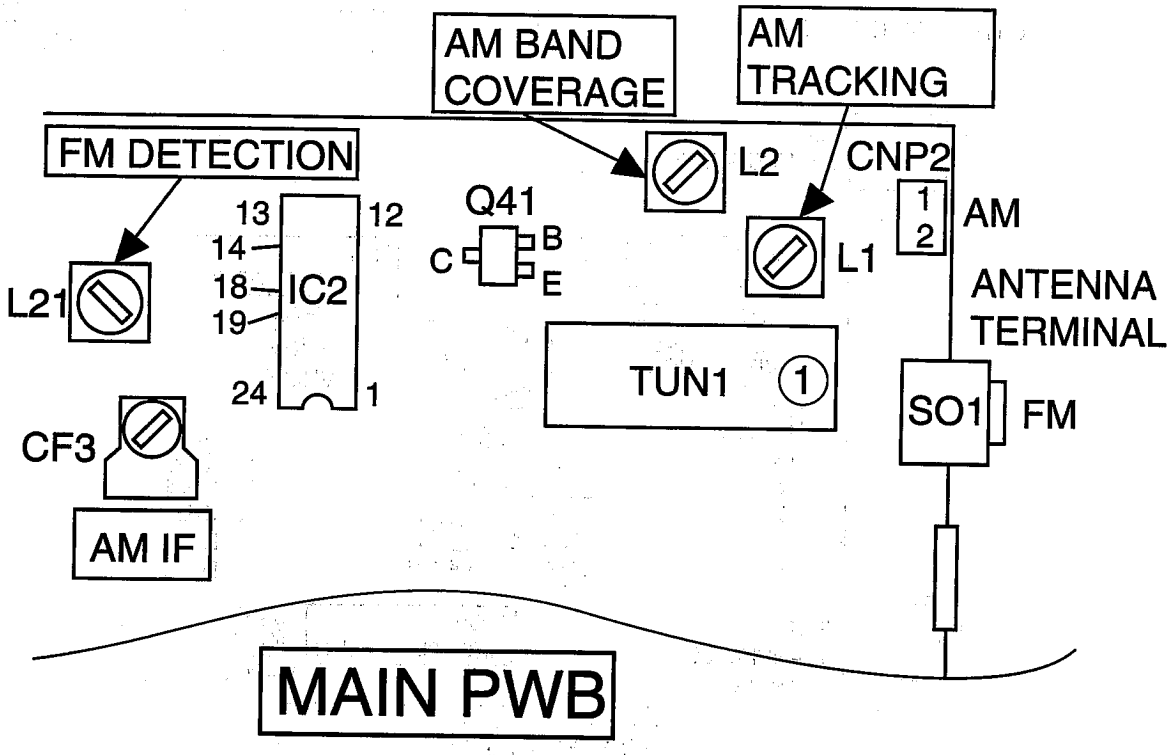


Figure 18-3 ADJUSTMENT POINTS

CD SECTION

Extension cable

When making adjustment or checking operation, use the following extension cable as necessary.

Type	Extension cable	Parts No.	Price Code
A	For CD PWB (TP751, 6-pin)	QCNWK0043AFZZ	AG

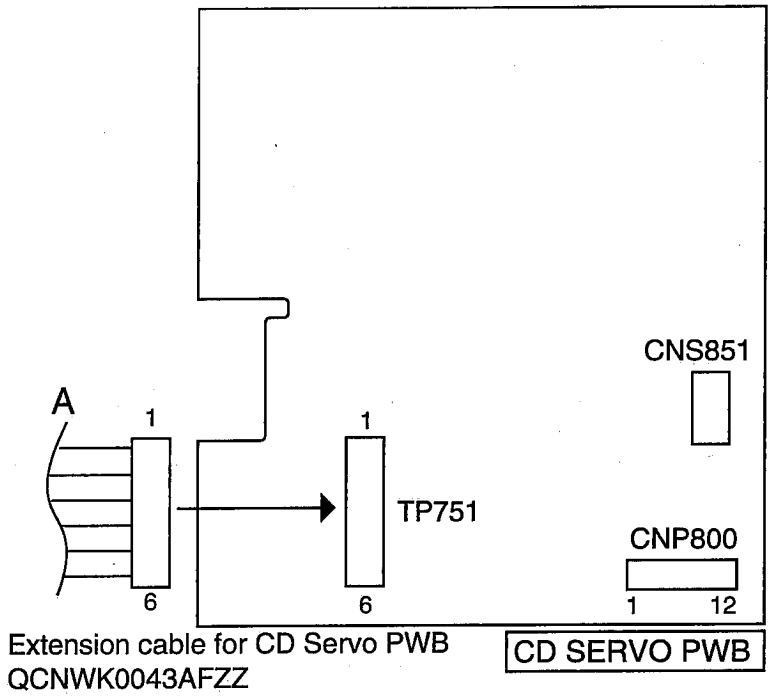


Figure 19-1

CD circuit adjustment

1. Preparation for adjustment

CD test mode setting

Test mode	Setting procedure	Remarks	Indication
CD test mode 0	Holding down together the ENTER button and "CD►II" button, plug the AC cord into the AC socket. (Or press the reset switch after the AC cord has been connected.)	The CD test mode 0 indication appears.	TEST 0 CD TEST CD test mode 0
CD test mode 1	In the CD test mode 0 once press the (CD►II) button. (1st time)	Laser lighting	TEST 1 CD TEST CD test mode 1
CD test mode 2	In the CD test mode 1 once press the (CD►II) button. (2nd time)	Focus start (focus servo ON)	TEST 2 CD TEST CD test mode 2
CD test mode 3	In the CD test mode 2 once press the (CD►II) button.(3rd time)	Disc rotation (Spin servo ON) (Disc is used)	TEST 3 CD TEST CD test mode 3
CD test mode 4	In the CD test mode 3 once press the (CD►II) button.(4th time)	Tracking servo ON (Disc is used)	TEST 4 CD TEST CD test mode 4
CD test mode 5	In the CD test mode 4 once press the (CD►II) button.(5th time)	Track No. and time are indicated. (Disc is used)	TEST 5 CD 01 0:15 CD test mode 5
After CD test mode 5 the (play) button is invalid when it is pressed (6th time).			

Button operation in CD test mode

1. When the ■ (stop) button is pressed, the specific operation is stopped, resulting is stop state. At this time the optical pickup does not slide, and the display indicates CD TEST MODE 0.
2. While the ▶▶I (skip) or I◀◀ (skip) button is held down, the optical pickup moves from inside to outside or from outside to inside.
   * The button operation is enabled during playing and during rest.
   * During this button operation the CD test mode display does not change.
   When the optical pickup slides from outside to inside and the optical pickup IN switch is turned on, its sliding stops (at the same time TEST MODE 0 is set.)
3. When DISPLAY (remote control) is pressed in the CD test mode 4 or 5, CD test mode 3 is resumed.
4. When the ▶II button is kept pressed for a long time (more than 0.5 sec) in the CD test mode 0, direct play is initiated and the CD test mode 5 is set.
5. When the power button is pressed in the CD test mode 0, the test mode is canceled, and POWER OFF state is set.
6. Volume changes in three steps (0, 5, 10).

Caution

1. Any buttons other than those specified above are invalid.
2. Be sure to connect all the connectors in advance to do this operation.

2. Adjusting the servo unit

Set all the half-fixed resistors in the mechanical center position.

Adjustment classification	Adjusting object	Setting/adjusting procedure	Connection of measuring instrument
Set the CD test mode 0, and shift the pickup to the center.			
Set the CD test mode 1. (Make sure that laser lights.)			
After loading the disc set the test mode 2. (Make sure that the focus servo is on. The disc does not rotate but mechanical tone is heard.)			
Set the CD test mode 3. (The spin servo is turned on, and the disc turns.)			
Tracking error balance adjustment	VR751	*1 (Figure 21-1)	Pin 6 (1/2Vcc) and pin 4 (TG1) of TP751
Set the CD test mode 4. (Tracking servo ON)			
Tracking gain adjustment	VR752	Get the same waveform on CH1 and CH2. *2	Pin 4 (TG1), pin 2 (TG2) and pin 6 (1/2Vcc) of TP751 (Relay circuit is used)
Set the test mode 5, and make sure that track No. and time are indicated.			
Apply a black tape to the disc, and play back this part. (Figure 21-2). (It is allowed to apply any mode in addition to test mode.)			
Focus offset adjustment	VR753	*3	Pin 6 (1/2Vcc) and pin 1 (FG1) of TP751 *4
Tracking offset adjustment	VR754	*5	Pin 6 (1/2Vcc) and pin 4 (TG1) of TP751 *6

*1: Taking 1/2Vcc as a reference DC level, make an adjustment to get vertical symmetry of waveform (Figure 21-1) with respect to the reference DC level.
(Amplitude 0.5 to 1.5 Vp-p) (As the optical pickup has been adjusted before shipping, adjustment is required only when adjustment disturbance is found.)

*2: Input oscillation frequency 1.5 kHz, 300 mVrms

*3: Make an adjustment so that the error waveform is minimized (Figure 21-3), noise (track jump sound) ceases during audio output monitoring and clear playback is ensured.

*4: The proper measurement range of oscilloscope is 50 mV, 0.5 ms.
Connect the trigger to the pin 39 (HFD) of IC750, apply coupling on DC (-) slope, and observe waveform in the normal trigger mode.

*5: Make an adjustment so that the error waveform becomes uniform and is minimized (Figure 21-3), noise (track jump sound) ceases during audio output monitoring, clear playback is ensured and sound skip and pause state do not occur.

*6: The proper measurement range of oscilloscope is 0.1V, 0.5 ms. The trigger is the same as stated in the note*4 above.

Reference: If the error waveform contains significant noise and is not clear, observe the waveform, using the low-pass filter (Figure 21-4).

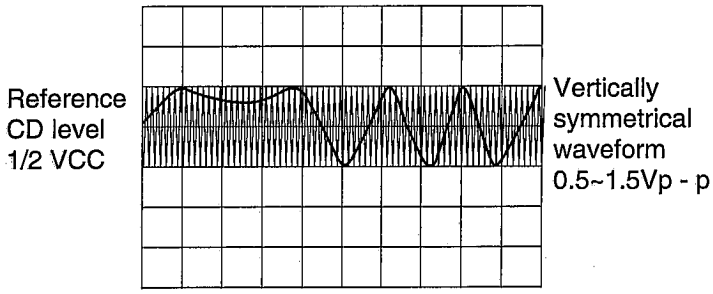


Figure 21-1 TRACKING ERROR BALANCE

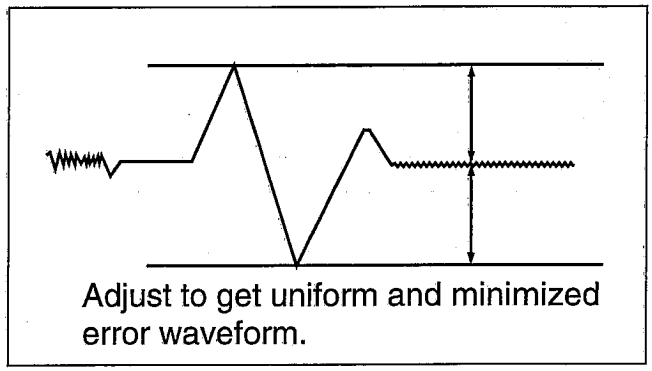
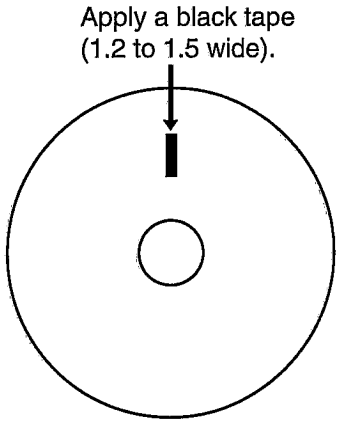


Figure 21-3 FOCUS OFFSET/TRACKING OFFSET



It is allowed use any disc in addition to test disc.
Do not apply the black tape to the initialization part (TOC).

Figure 21-2 FOCUS OFFSET/TRACKING OFFSET

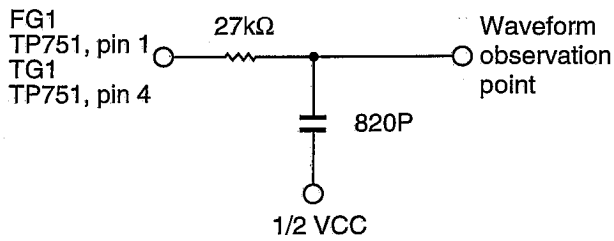


Figure 21-4 LOW-PASS FILTER

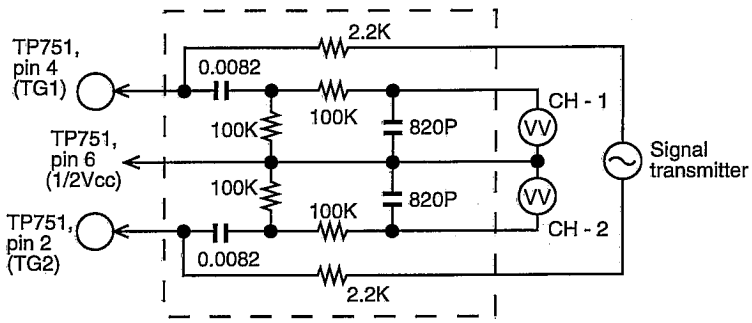


Figure 21-5 TRACKING GAIN RELAY CIRCUIT

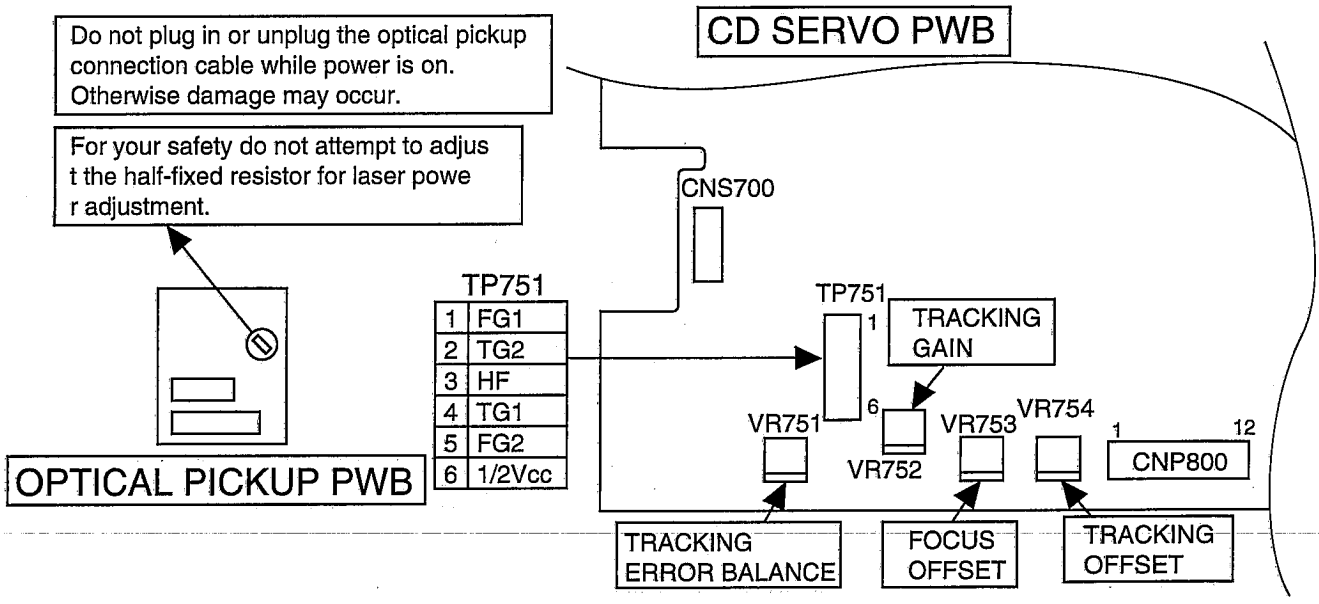


Figure 21-6 ADJUSTMENT POINTS

MD-X3H

MD SECTION

1. Preparation for ajustment

Test disc

	Type	Test disc	Parts No.	Price Code
1	High reflection disc	TGYS1 (SONY)	RRCDT0101AFZZ	CB
2	Low reflection disc	Recording minidisc	UDSKM0001AFZZ	AZ
3	————	Head adjusting transparent disc	RRCDT0103AFZZ	BK

Extension cable (See Fig. 27-5)

	Type	Parts No.	Price Code
1	Extension PWB for Servicing	RUNTK0385AFZZ	BS
2	Extension Connector (2 Pin)	QCNWK0059AFZZ	AF
3	Extension Cable (26 Pin)	QCNWK0038AFZZ	AF
4	Extension Connecter (5 Pin)	QCNWK0060AFZZ	AH
5	Extension Cable (5 Pin)	QCNWK0061AFZZ	AK
6	Extension Cable (24 Pin)	QCNWK0035AFZZ	AN
7	Extension Cable (8 Pin)	QCNWK0086AFZZ	AM

2. Test mode

Test mode setting

1. Holding down the POWER button and MD ▶II (PLAY/PAUSE) button, plug in the AC cable.
(The state A is changed to the state B.)
2. Load the playback disc 1 (high reflection disc) or the record disc 2 (low reflection disc).
(The state C is set.)

Thereby the test mode has been set.

A: TEST_X1✳✳: TEST mode : MD TEST STOP state ✳✳ represents the version of MD microcomputer.
(When the MD ■ button is pressed in the state B, the display of A is resumed. To resume again the state B, press the CD ▶II (PLAY/PAUSE) button.)

MD TEST
↓
B: EJECT
MD TEST

B: AUTO ↓
MD TEST

Entering the specific modes

Whenever the ▶II (PLAY/PAUSE) button is pressed while the display is in the AUTO state, the mode is changed as follows.

AUTO → RESULT → MANUAL

• Test mode canceling procedure

• Press twice the POWER button. Then, the set exits the TEST mode, and it is set to POWER OFF state.
(Pressing once results in MD standby state.)

• Test Mode

1. AUTO Mode	• Automatic adjustment is performed. (After adjustment the grating adjustment mode is set.) • Set value is output through the display interface. • Continuous playback is performed (error rate display).
2. RESULT Mode	• Temperature is displayed. • The setting is displayed. • Set value is changed manually (in servo OFF state).
3. MANUAL Mode	• Seeing the displayed measurement value/set value, make manualadjustment to set values within the allowable range. • Continuous playback is performed (error rate display).
4. INNER Mode	• Determine the position where the INNER switch is turned on.(only high reflection disc.)
5. JUNP Mode	• 1 line, 10 lines or 400 lines manual jump is performed.
6. TEST/PLAY Mode	• Continuous playback from the specified address is performed. • C1 error rate measurement
7. TEST/REC Mode	• Continuous record from the specified address is performed. • Change of record laser output

1. AUTO Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[TEST_X1●●]
Step 2	Once press the CD play button.	AUTO menu mode	[AUTO]
Step 3	Once press the MD Play button.	Slide shift to innermost periphery and start of automatic adjustment • When the high reflection disc is used, ✳✳✳ changes as follows TEO→FEO→Hfg→TRC→HTG→HTB→HFG • When the low reflection disc is used, ✳✳✳ changes as follows TEO→FEO→Lfg→TRC→LTG→LTB→ LFG→GTL→TRC→GTG→GTB→LFG	[✳✳✳ : ○○ ●●]
Step 4	If adjustment is OK, the process proceeds to Step 5. If adjustment is NG, the process proceeds to Step 9.		
Step 5	End of adjustment		[COMPLETE]
Step 6	Once press the MD Play button. Press the MD Stop button.	Step 7 Step 8	
Step 7	Continuous playback (pit section) Continuous playback (groove section)		[s□□□□c△△△△] [a□□□□c△△△△]
Step 8	Once press the Stop button.	Test mode STOP state	[AUTO]
Step 9	Adjustment status output	• Adjustment NG: When TEO or FEO measured value is out of range, adjustment is disabled or focus ON is disabled.	[Can't ADJ.]
Step 10	Once press the Stop button.	Test mode STOP state	[AUTO]

• ✳✳✳: Adjustment name, ○○: Measurement name, ●●: Set value, □□□□: Address, △△△△: C1 Error

2. RESULT Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode CD Play state		[TEST_X1●●]
Step 2	Press the MD Play button twice.	RESULT menu mode	[RESULT]
Step 3	Press the CD Play button.	Measured value display: Temperature	[TMP: ◆◆]
Step 4	Press the CD Play button.	Measured value display: Tracking error offset	[TEO: ○○]
Step 5	Press the CD Play button.	Measured value display: Focus error offset	[FEO: ○○]
Step 6	Press the CD Play button.	Measured value display: High reflection focus gain	[HFG: ●●]
Step 7	Press the CD Play button.	Measured value display: High reflection pit tracking gain	[HTG: ●●]
Step 8	Press the CD Play button.	Measured value display: High reflection pit tracking error balance	[HTB: ●●]
Step 9	Press the CD Play button.	Measured value display: Low reflection focus gain	[LFG: ●●]
Step 10	Press the CD Play button.	Measured value display: Low reflection pit tracking gain	[LTG: ●●]
Step 11	Press the CD Play button.	Measured value display: Low reflection pit tracking error balance	[LTB: ●●]
Step 12	Press the CD Play button.	Measured value display: Low reflection TOTAL signal level	[GTL: ●●]
Step 13	Press the CD Play button.	Measured value display: Low reflection groove tracking gain	[GTG: ●●]
Step 14	Press the CD Play button.	Measured value display: Low reflection groove tracking error balance	[GTB: ●●]
Step 15	Press the MD Stop button.	RESULT menu mode	[RESULT]

• ○○: Measurement name, ●●: Set value, ◆◆: Temperature code
• Pressing the SKIP DOWN button results in reversing. (Use the ◀◀ button of MD.)
• When the VOL UP button is pressed while the setting is displayed, the setting increases, and the new setting is stored in RAM.
When the VOL DOWN button is pressed while the setting is displayed, the setting decreases, and the new setting is stored in RAM.
• When the VOL UP/DOWN button is held down, the setting changes continuously with 100 ms cycle.

3. MAMUAL Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[TEST_X1●●]
Step 2	Press the CD Play button three times.	MAMUAL menu mode	[MANUAL]
Step 3	Press the MD Play button.	Tracking error offset measurement	[TEO: ○○]
Step 4	Press the CD Play button.	Focus error offset measurement	[FEO: ○○]
Step 5	Press the CD Play button.	Laser lighting	[LON:]
Step 6	Press the CD Play button.	Slide shift to innermost periphery (6-a) Focus gain rough adjustment (high reflection) (6-b) Focus gain rough adjustment (low reflection)	 [H f g: ○○ ●●] [L f g: ○○ ●●]
Step 7	Press the CD Play button.	(7-a) Pit: Tracking gain adjustment (high reflection) (7-b) Pit: Tracking gain adjustment (low reflection)	[HTG: ○○ ●●] [LTG: ○○ ●●]
Step 8	Press the CD Play button.	(8-a) Pit: Tracking error balance adjustment (high reflection) (8-b) Pit: Tracking error balance adjustment (low reflection)	[HTB: ○○ ●●] [LTB: ○○ ●●]
Step 9	Press the CD Play button.	(9-a) Focus gain fine adjustment (high reflection) (9-b) Focus gain fine adjustment (low reflection)	[HFG: ○○ ●●] [LTG: ○○ ●●]
Step 10	Step (13) when the CD Play button is pressed. Step (11) when the MD Play button is pressed.		
Step 11	Pit section continuous playback		[s□□□□ c△△△△]
Step 12	Step (9-a) or (9-b) when the MD Record button is pressed.		
Step 13	TOTAL signal level adjustment	(High reflection disc is not accepted.)	[GTL:○○ ●●]
Step 14	Press the CD PLay button.	Groove: Tracking gain adjustment	[GTG:○○ ●●]
Step 15	Press the CD Play button.	Groove: Tracking error balance adjustment	[GTB:○○ ●●]
Step 16	Press the CD Play button.	Focus gain fine adjustment	[LFG:○○ ●●]
Step 17	Press the MD Play button.	Groove section continuous playback	[a□□□□ c△△△△]
Step 18	Step (16) when the MD Record button is pressed.		

- ○○ : Measurement name, ●●: Set value, □□: Address, △△C1 Error
- Pressing the REC button results in reversing.
- When the VOL UP button is pressed while adjustment is made, the setting increases, and the new setting is output.
- When the VOL DOWN button is pressed while adjustment is made, the setting decreases, and the new setting is output.
- When the VOL UP/DOWN button is held down, the setting changes continuously with 100 ms cycle.

4. INNER Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[TEST_X1●●]
Step 2	Press the TOC Edit button.	INNER menu	[INNER]
Step 3	Press the MD Play button.	Measurement of INNER switch position	[s□□□□c△△△△]
Step 4	Press the MD Stop button.	Test mode stop state	[TEST_X1●●]

- □□□□: Address, △△△△: C1 ERROR
- When the Stop button of the INNER menu is pressed, the TEST mode is stopped.
- The INNER mode is only for the high reflection disc. Therefore, the menu is not changed to the INNER menu when the low reflection disc is used.

5. Jump Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[TEST_X1●●]
Step 2	Press the TOC Edit button twice.	JUMP menu	[JUMP 1]
Step 3	Press the MD Play button.	JUMP mode (pit section) (High reflection disc) JUMP mode (groove section) (Low reflection disc)	[s□□□□ ▲▲▲] [a□□□□ ▲▲▲]
Step 4	Press the SKIP UP button. Press the SKIP UP button. Press the SKIP DOWN button. Press the SKIP DOWN button.	Jump in Forward direction (pit section) (High reflection disc) Jump in Forward direction (groove section) (Low reflection disc) Jump in Review direction (pit section) (High reflection disc) Jump in Review direction (groove section) (Low reflection disc	[s□□□□ ▲▲▲] [a□□□□ ▲▲▲] [s□□□□ ▲▲▲] [a□□□□ ▲▲▲]
Step 5	Press the Stop button.	Test mode stop state	[TEST_X1●●]

- □□□□: Address, ▲▲▲: Number of jump lines
- When the TOC Edit button is pressed in the JUMP mode, the number of jump lines changes as follows.
  1line → 10line → 40line → 1line
- When the MD Stop button of the JUMP menu is pressed, the TEST mode is stopped.
- While the Cue/Review button is held down in the JUMP mode, jump is repeated at regular intervals of approx. 100 ms.

✳ Cue/Review button → Operate the MD ◄◄/►► button.

6. TEST/PLAY Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state		[TEST_X1●●]
Step 2	Press the EDIT START button.	TEST/PLAY menu	[TEST PLAY]
Step 3	Press the MD Play button.	Address setting (target address value is displayed).	[ADRES0032]
Step 4	Press the MD Play button.	Continuous playback from address set value (pit section) (high reflection disc) Continuous playback from address set value (groove section) (low reflection disc)	[s□□□□c△△△△] [a□□□□c△△△△]
Step 5	Press the Stop button.	Return to TEST PLAY	[TEST_PLAY]

- □□□□: Address, △△△△: C1 Error
- When the MD Stop button of TEST/PLAY menu is pressed, the TEST mode is stopped.
- Address is set with the Cue/Review button.
  Cue : Address is set to +01H.
  Review: Address is set to -01H.
- When the Cue/Review button is held down, address changes continuously with 100 ms cycle.
- When the Cue/Review button is pressed, automatic carry is performed. The address must not exceed the upper limit and lower limit.
- When the Timer button is pressed during address setting, the initial value of address changes as follows.
  0032 → 03C0 → 0700 → 0032 → •••

7. TEST/REC Mode

Step No.	Setting Method	Remarks	Display
Step 1	Test mode STOP state	Load the low reflection disc. (Release the erase preventing knob in advance.)	[TEST_X1●●]
Step 2	Press the EDIT START button twice..	TEST/REC menu	[TEST REC]
Step 3	Press the MD Play button.	Address setting (target address value is displayed).	[a0032 PW▽▽]
Step 4	Press the MD Play button.	Continuous record	[a□□□□ PW▽▽]
Step 5	Press the MD Stop button.	Test mode STOP state.	[TEST REC]

- □□□□: Address, ▽▽: Setting
- When the Stop button of TEST/REC menu is pressed, the TEST mode is stopped.
- Address is set with the Cue/Review button.
  Cue : Address is set to +01H.
  Review: Address is set to -01H.
- When the Cue/Review button is held down, address changes continuously with 100 ms cycle.
- When the Cue/Review button is pressed, automatic carry is performed. The address must not exceed the upper limit and lower limit.
- When the EDIT START button is pressed during address setting, the initial value of address changes as follows.
  Start address
  0032 → Disc inner periphery 03C0 → Disc center 0700 → The outer periphery of disc is set.

* When the VOL UP/DOWN button is pressed in the address set state and continuous record state, the record power of laser changes.
  [REC—POWER ▽▽]

● Lead-in switch position measurement mode (Test Disc 1 is used)

Measurement with high reflection disc (check when the mechanism switch was replaced)

Step No.	Setting Method	Remarks	Display	
			Disc for record	Disc for playback
Step 1	Test mode start	Servo OFF (Power ON)	AUTO	AUTO
Step 2	Once press the TOC Edit button.		Operation is disabled if disc for record is in serted.	INNER
Step 3	Once press the MD Play/ Pause button.	The sub-code cluster value of Read-in switch position is displayed.		[s□_ _ _ a]

Note : Adjust the lead-in switch position at SUBQ FF85 to FFD2.

1. Loosen the three screws (A) fixing the mechanism switch PWB.
2. Pressing the mechanism switch PWB in the arrow direction, retighten the screw. Then, measure again the position of lead-in switch.
   After position adjustment fix the mechanism switch PWB with the three screws (A). (See Figure 26-1.)

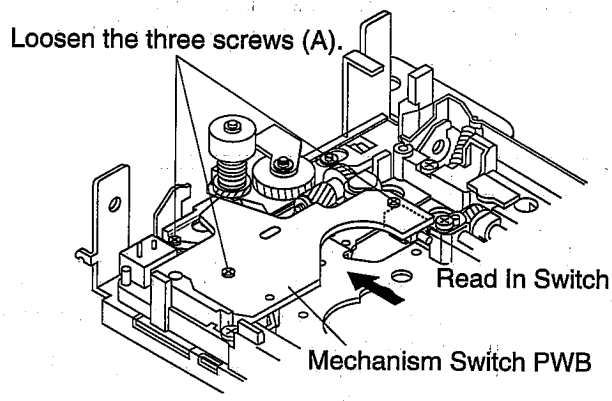


Figure 26-1

● Forced rotation of loading motor

While the display indication is in AUTO and EJECT state, the loading motor can be forcibly rotated by turning the Jog dial.

● Adjustment of magnetic head mounting position

- When the magnetic head and optical pickup have been replaced, be sure to adjust the mounting position.
- For easier adjustment of mounting position move the optical pickup to the center position, and then adjust the position.

1. Set the adjusting transparent disc 3.
2. Lower the magnetic head up-shift arm with your finger, and raise the magnetic head.
3. Viewing the set from above, make an adjustment so that the magnetic head aligns with the optical pickup objective lens.
   - •Radial direction: Slightly loosen the head fixing screw (A), and shift the magnetic head fitting to align the head with the pickup abjective lens.
   - •Circumferential direction: Turn the magnetic head circumferential adjustment nut (B), and adjust to align the head with the objective lens.
4. Make sure that there is a clearance as shown in Figure 26-2 and the magnetic head moves up and down smoothly.
5. After adjustment apply Screw Lock to the head fixing screw (A) and adjusted magnetic head circumferential adjusting screw (B).

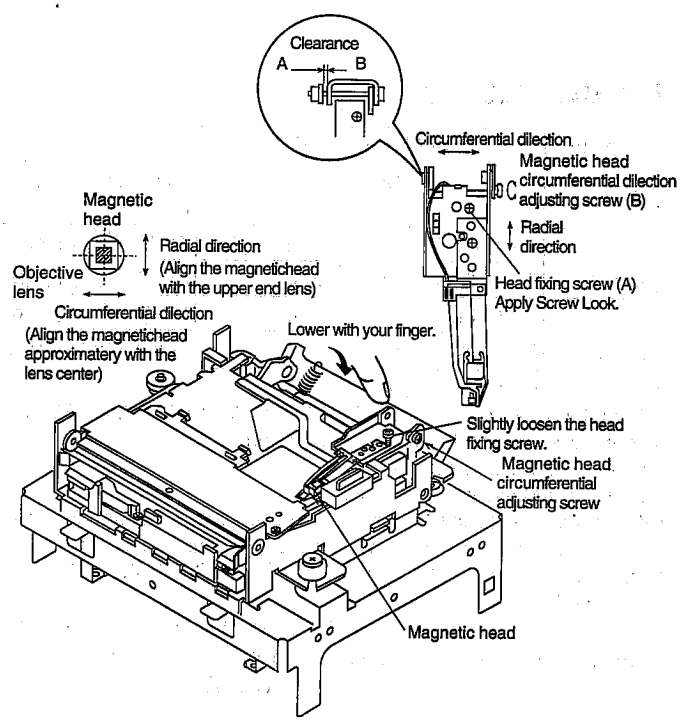

Clearance
A
B
Circumferential dilection
Magnetic head circumferential dilection adjusting screw (B)
Radial direction
Magnetic head
Objective lens
Radial direction (Align the magnetichead with the upper end lens)
Circumferential dilection (Align the magnetichead approximatery with the lens center)
Head fixing screw (A) Apply Screw Look.
Lower with your finger.
Slightly loosen the head fixing screw.
Magnetic head circumferential adjusting screw
Magnetic head

Figure 26-2

● Mechanism Adjustment

1. Optical pickup grating inspecting method

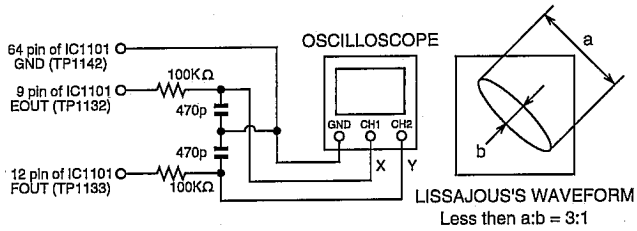


Figure 27-1 OPTICAL PICKUP GRATING DEVIATION MEASURING METHOD

After the automatic adjustment is performed in the AUTO mode (test mode) with the aid of high refection MD disc ("COMPLATE" is displayed), the Lissajous's waveform (x-y) is adjusted.

1. Slightly loosen the 3 screws of spin motor, and make an adjustment, observing the Lissajous's wavefor.
2. After adjustment tighten the screws in arder of ①, ②, ③

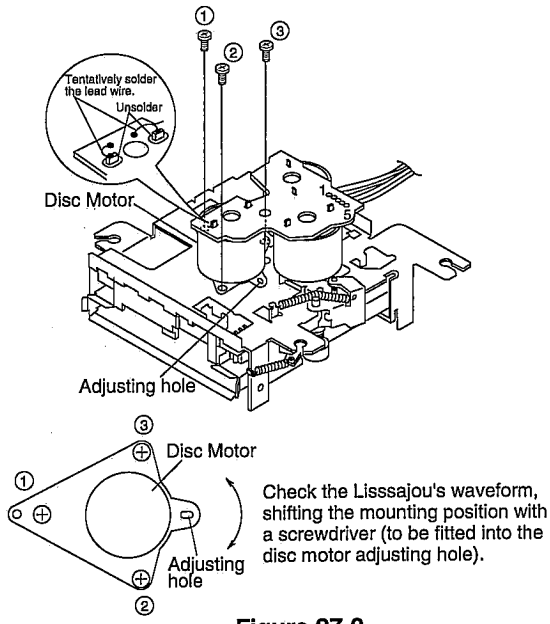


Figure 27-2

2. Jitter adjustment and checking method

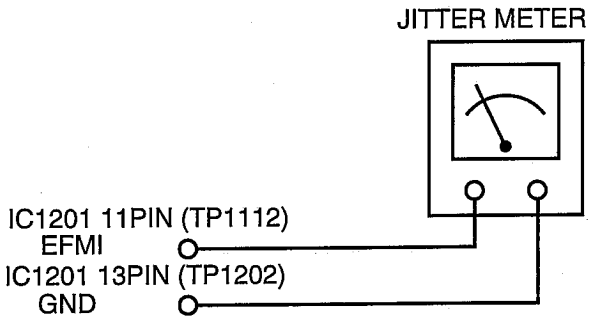


Figure 27-3

After performing the automatic adjustment in AUTO mode of test mode, using the low reflection MD disc set the jitter to the best point by adjusting the FB (focus balance) VR1110 on the main PWB. At this time jitter must be 32 ns or less.

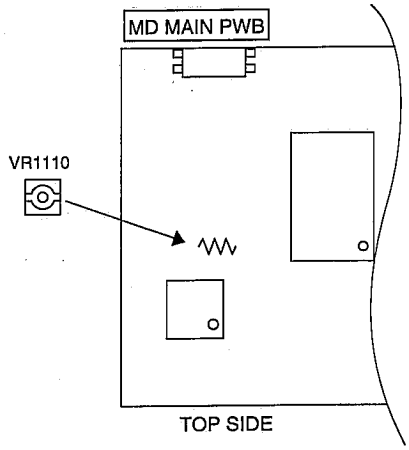


Figure 27-4

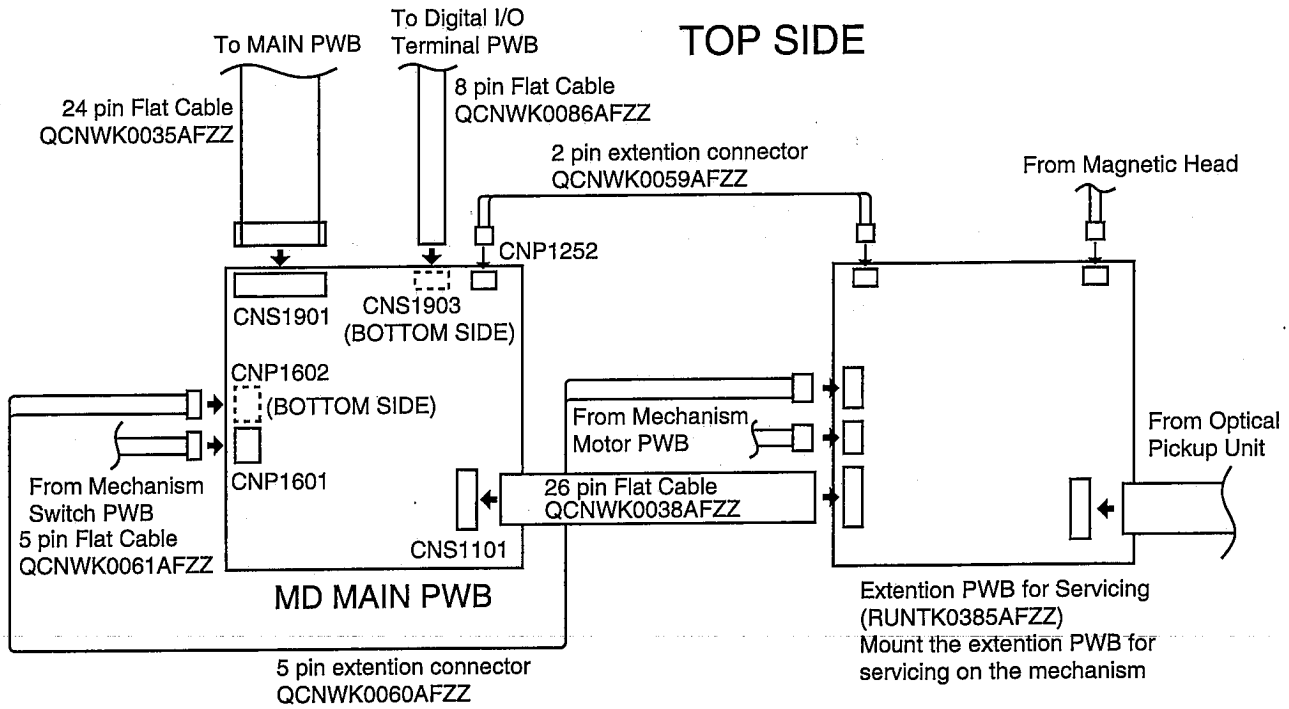


Figure 27-5

EXPLANATION OF ERROR DISPLAY

Error display	Errors	Corrective action
Can't REC	• Defect occurred 10 times successively during REC-PLAY. • Due to occurrence of defect during REC-PLAY the recordenable cluster became zero.	• Check that disc is free from flaws, dust, fingerprint, black spots, etc. Check for significant disalignment and runout of disc.
Can't COPY	• The following judgment was made based on the channel status of digital signal which was input from D-IN during (1) Other than audio uses (2) Other than home-uses (3) Check whether the D-IN input source is copy-inhibited CD.	• Failure of copy from CD due to inversion of COPY bit.
Din UNLOCK	• The following result was obtained with respect to the digital signal input from D-IN during REC-PAUSE or REC-PLAY. (1) PLL of digital IN was unlocked.	• Check for troubles in D-IN signal line.
TOC FULL	• During REC-PLAY the recording area was completely filled with data so that there is no area to register music and character information (music name and disc name). • When an attempt to enter REC-PAUSE or DIVIDE mode or to write the character information was made, the UTOC writing area was full of data.	• Replace disc with a recording disc having an area to register UTOC. • Replace disc with another record/playback disc having a sufficient area to write UTOC.
UTOC ERR R	• FTNO > LTNO • FTNO ≠ 0 or 1 • UTOC record on disc could not be read.	• UTOC data has error. Replace disc with another disc.
UTOC ERR A	• Start address > End address	• UTOC data has error. Replace disc with another disc.
UTOC ERR L0~4	• Data of UTOC 0 to 4 was looped.	• UTOC data has error. Replace disc with another disc.
NOT AUDIO	• Nonaudio data was recorded in the track mode of TNO which is currently selected.	• Select another TNO or replace the disc.
? DISC	• "MINI" data of system ID written with ASCII code in TOC is not correct. • The disc type written in TOC is not for premastered MD, recording MD or hybrid MD.	• The disc is nonstandard disc. Replace disc with another disc, and check.
DISC FULL	• When an attempt to set REC-PAUSE was made, there was no record-enable area in the disc.	• Replace the disc with another record disc having record-enable area.
PLAYBACK MD	• An attempt to set REC-PAUSE or to edit was made on the playback-only disc.	• Replace the playback-only disc with record disc.
PROTECTED	• An attempt to record or edit was made on the record/playback disc whose safety lug has been set to careless protected. Redo on another track.	• Release the safety lug, and try again.
Can't EDIT	• The specific editing conditions were not satisfied in editing.	• Operation procedure is not proper. Redo, following the correct operation procedure. • Attempt to edit, changing the place.
TEMP OVER	• Temperature in the set rose excessively due to occurrence of some trouble.	• Check whether the MD unit was used in hot place.
MECHA ERR 1	• When the ejection operation was made, the ejection completion position was not reched.	• Once turn off the power supply, and redo. • Check the signal line to the mechanism or loading motor.
MECHA ERR 2	• When the head-up operation was made, the load completion position was not reched.	
MECHA ERR 3	• When the head-down operation was made, the head-down position was not reched.	
DISC ERR RD PA WR	• The read data was not correct or data could not be read correctly. • An error occurred during recording of music data, and it could not be recorded correctly.	• TOC or UTOC data contain error or disc has flaw. Replace the disc.
TOC ERR S TOC ERR R TOC ERR T	• The read TOC data was not correct. • An attempt to read TOC was made, but it could not be read.	• The TOC information recorded on the disc does not conform to the MD standard. Replace the disc. • The disc has flaw. Replace the disc.

Error display	Errors	Corrective action
UTOC W ERROR	• An error occurred during UTOC rewriting, so that UTOC could not be rewritten corrctly.	• The disc has flaw. Replace the disc.
FOCUS ERROR	• When the disc was loading, the focus could not be set.	• Check that the disc is free form flaw, dust, fingerprint and black spot. Check that the disc does not have significant disalignment or run-out.
BLANK MD	• When UTOC was read, it was found that total TNO and the number of characters of NAME was 0.	• Check whether the disc is recordable one by preforming recording.
DEFECT	• Focus retract error occurred due to shock during REC-PLAY.	• Check that the disc is free form flaw, dust, fingerprint and black spot. Check that the disc does not have significant disalignment or run-out.

EXPLANATION OF MECHANISM ERROR

Error display	Errors
MECHA_ERR1_* MECHA_ERR2_* MECHA_ERR3_*	Ejection is not completed. Head-up is not completed. Head-down position 1.3 to 1.853V

		HINF (IC1401 ④ PIN)
* = E	Ejection completed position	< 1.3 V
* = M	Horizontal midway position	> 3.06 V
* = L	Load completed position	1.853 ~ 2.48 V
* = D	Head-down position	1.3 ~ 1.853 V

NOTES ON SCHEMATIC DIAGRAM

- Resistor:
  To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with "Fusible" is a fuse type.
- Capacitor:
  To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression "capacitance/withstand voltage" is used.
  (CH), (TH), (RH), (UJ): Temperature compensation
  (ML): Mylar type
- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
- Parts marked with " ⚠ " (⊏ = = = ⊐) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

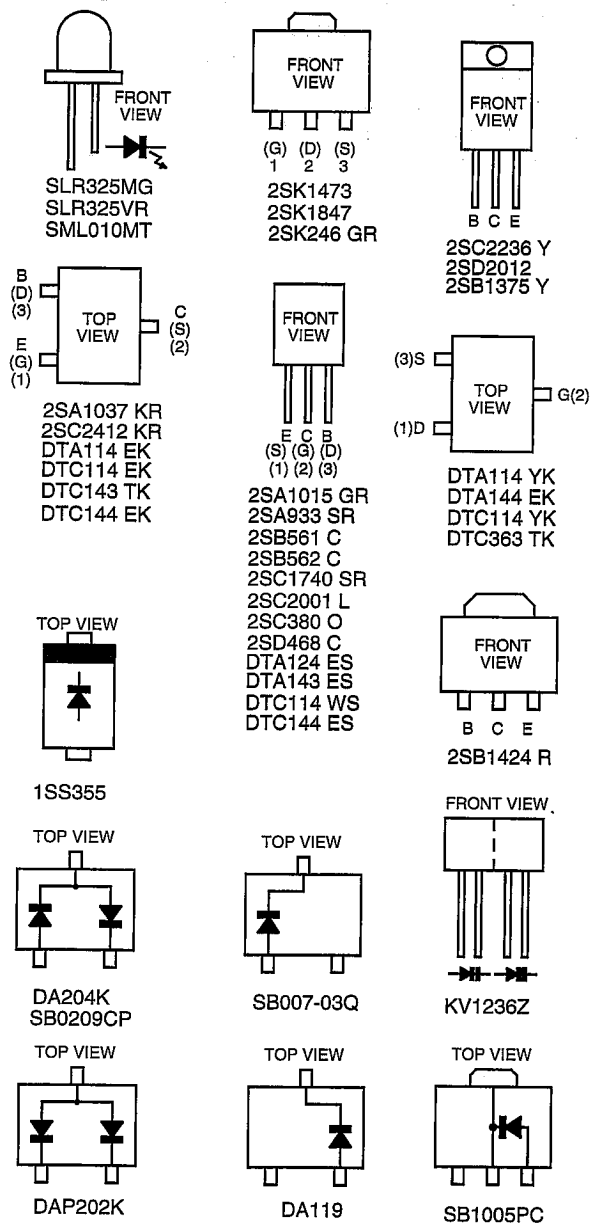


Figure 30 TYPES OF TRANSISTOR AND DIODE

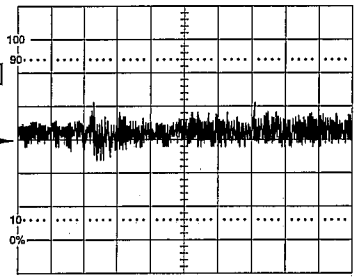
REF. NO	DESCRIPTION	POSITION
SW101	BEAT CANCEL	B
SW251	TAPE FORWARD	OFF
SW252	TAPE STOP	OFF
SW253	TAPE REVERSE	OFF
SW254	TAPE FAST FORWARD	OFF
SW255	TAPE REWIND	OFF
SW256	TAPE RECORD/PAUSE	OFF
SW257	DOLBY NR	OFF
SW258	REVERSE MODE	OFF
SW259	MD PLAY	OFF
SW260	MD STOP	OFF
SW261	MD EJECT	OFF
SW262	DISPLAY/CHARACTER	OFF
SW263	TIMER/DELETE	OFF
SW264	NAME TOC-EDIT	OFF
SW265	PLAY	OFF
SW266	TRACK	OFF
SW267	MD RECORD MODE	OFF
SW268	MD RECORD	OFF
SW269	POWER	OFF
SW270	TUNER CALL (BAND)	OFF
SW271	AUXILIARY (DIGITAL/ANALOG)	OFF
SW272	VOLUME UP	OFF
SW273	VOLUME DOWN	OFF
SW275	3D SURROUND	OFF
SW276	MD FAST FORWARD	OFF
SW277	ENTER	OFF
SW278	MD REWIND	OFF
SW279	CD PLAY	OFF
SW280	CD STOP	OFF
SW281	CD OPEN/CLOSE	OFF
SW282	CD DISC SKIP	OFF
SW283	DISC 3	OFF
SW284	DISC 2	OFF
SW285	DISC 1	OFF
SW391	RESET	OFF
SW401	TAPE CASSETTE DETECTION	OFF
SW402	TAPE SIDE B ERASE PREVENTION	OFF
SW403	TAPE MAIN	OFF
SW404	TAPE SIDE A ERASE PREVENTION	OFF
SW405	TAPE CrO_2 DETECTION	OFF
SW581	TRAY OPEN	CLOSE
SW702	PICKUP IN	OFF
SW1951A/B	DISC PROTECT/DISC MEDEA	ON
SW1953	LEAD IN	ON
SW1954	MD PLAY	OFF
SW1955	MD RECORD	OFF
SW1956	LORDING	OFF

WAVEFORMS OF CD CIRCUIT

1 IC700 ①, ②
2V/1mS (DC range)
[Disc playback mode]

Potential difference 0V →

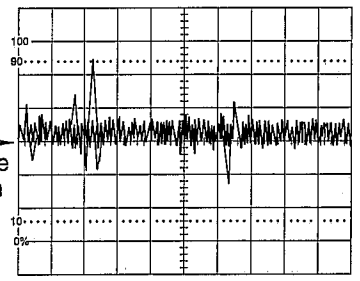
Disc free from flaw



Disc having flaw
(the same as above)

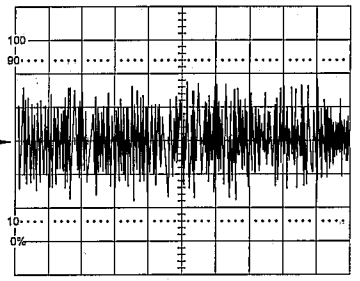
Potential difference 0V →

If a flaw exists, pulse-like noise appears as shown right.
Noise appears also in output of ❷ and TE or FE signal.



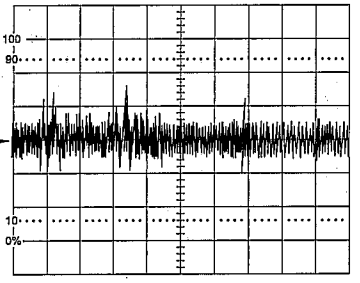
2 IC700 ⑪, ⑫
0.5V/0.5mS
(Dc range)
[Disc playback mode]

Potential difference 0V →

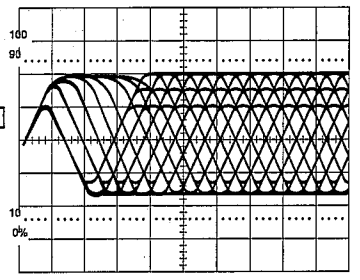


3 IC750 ⑨
50mV/2mS
[Disc playback mode]

1/2VCC →

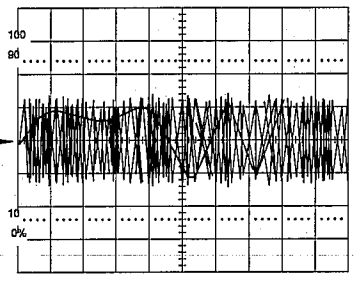


4 TP751 ③
0.2V/0.5μS
(AC range)
[Disc playback mode]



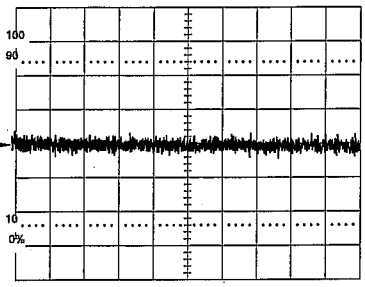
5 TP751 ④
0.2V/1mS
(DC range)
In test mode 3

1/2VCC →



0.2V/1mS (DC range)
[Disc playback mode]

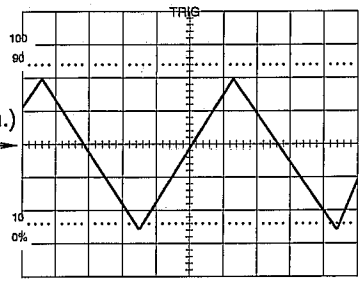
1/2VCC →



6 IC750 ㉒
In test mode 2
(disc is not loaded.
Lens is moved up and down.)

1/2VCC →

200mV/0.5S (DC range)
* Observation with the aid of storage oscilloscope
Only the triangular wave and luminous dot shown right are observed on oscillograph.



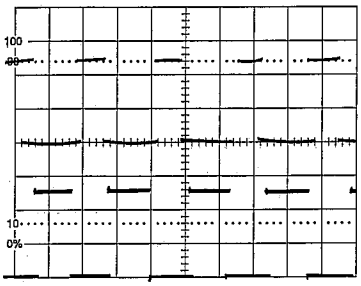
7 IC800 ㊲, ㊳
Disc motor
PWM output PWM1
0.2V/10μS
(DC range)

GND →

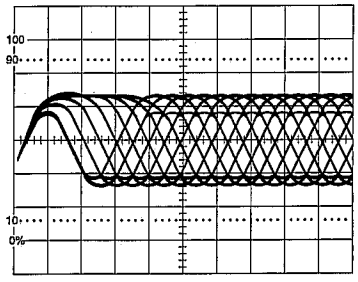
[Disc playback mode]

(Use the 10:1 probe.) PWM2

GND →

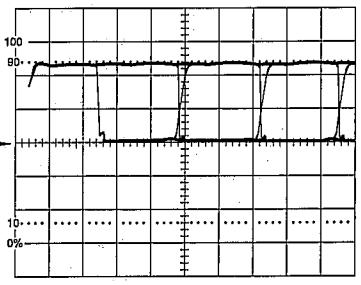


8 IC800 ⑲
20mV/0.5μS
(AC range)
[Disc playback mode]
(Use the 10:1 probe.)



9 IC800 ㉘
2V/0.1μS (DC range)
[Disc playback mode]

GND →



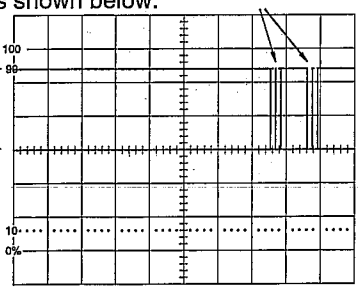
* If disc has flaw or during track search pulse-like "L" level appears as shown below.

10 IC800 ④
2Vdiv (DC range)

Playback mode, 4.8V →

Stop mode, 0V →

When the disc rotates and the HF signal is synchronized with the IC internal signal, H level is set.



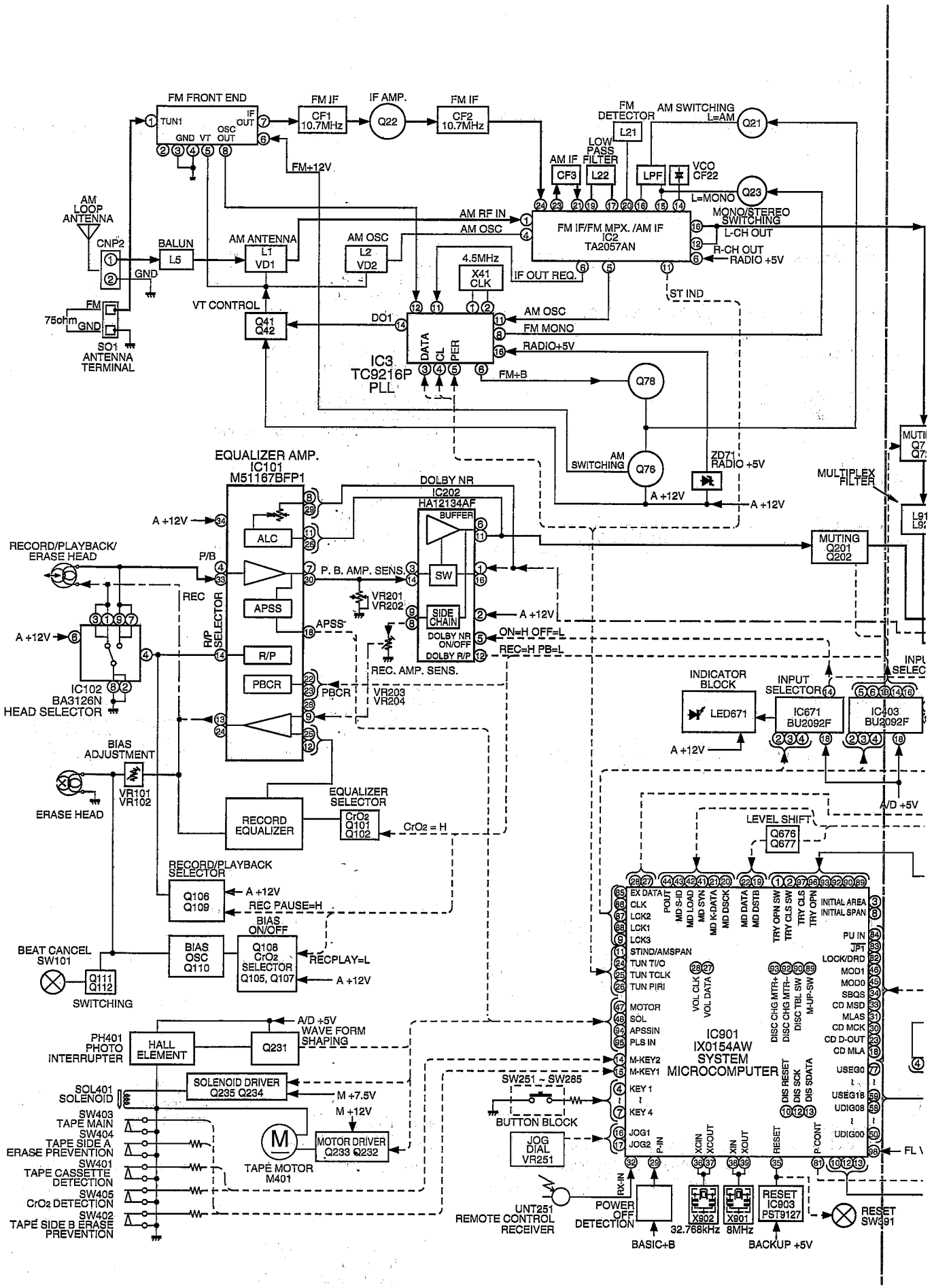


Figure 32 BLOCK DIAGRAM (1/6)

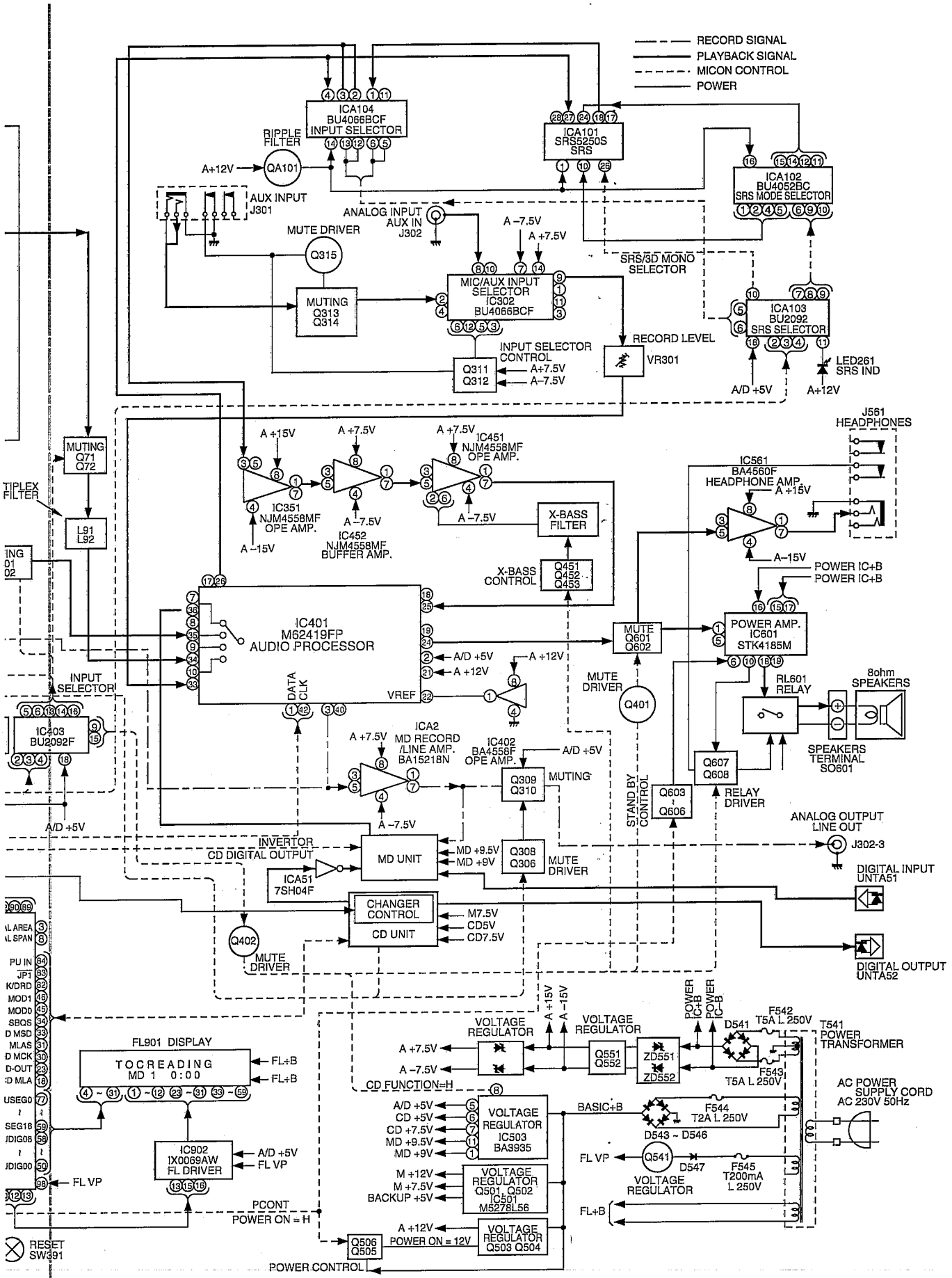


Figure 33 BLOCK DIAGRAM (2/6)

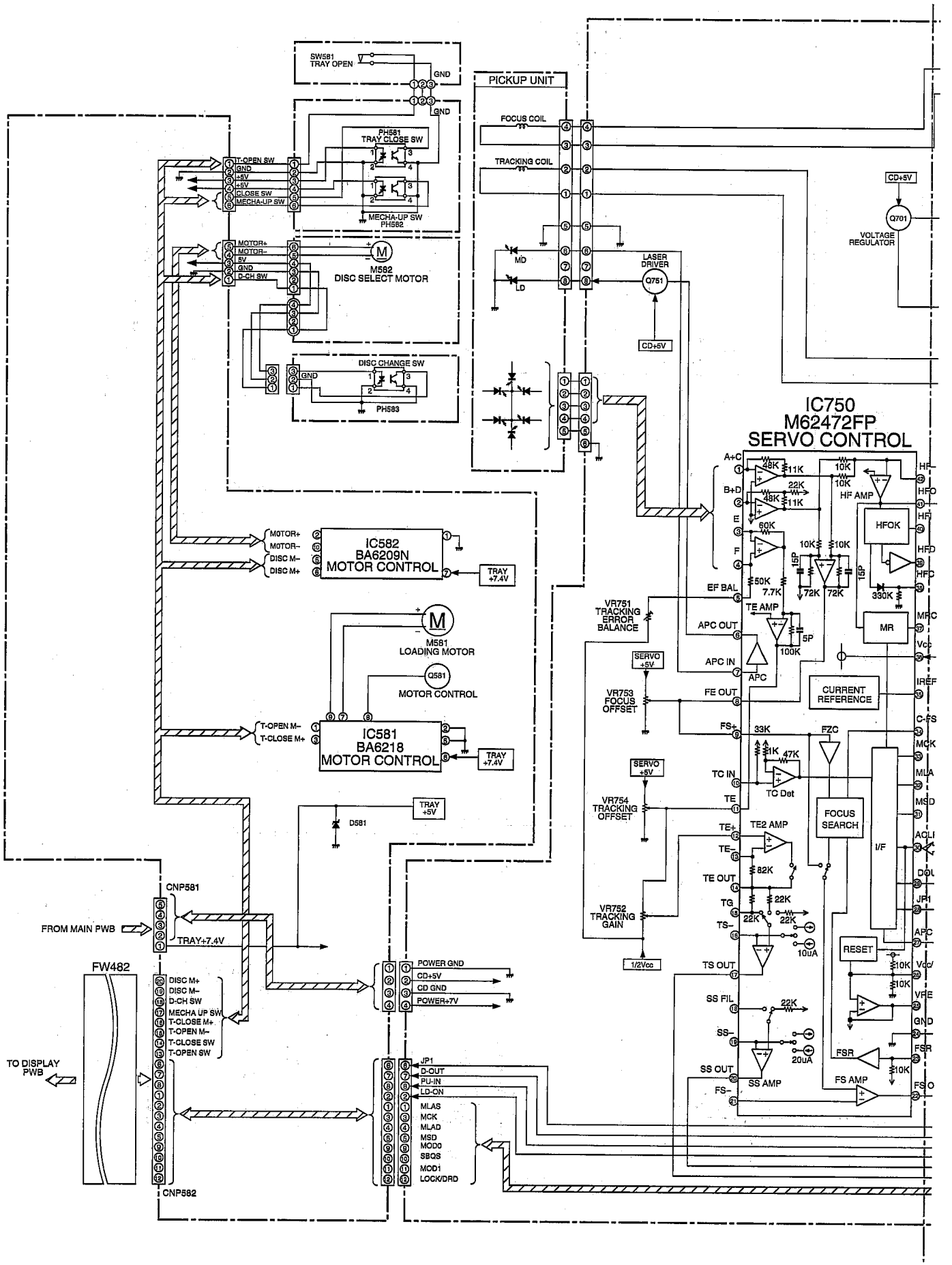


Figure 34 BLOCK DIAGRAM (3/6)

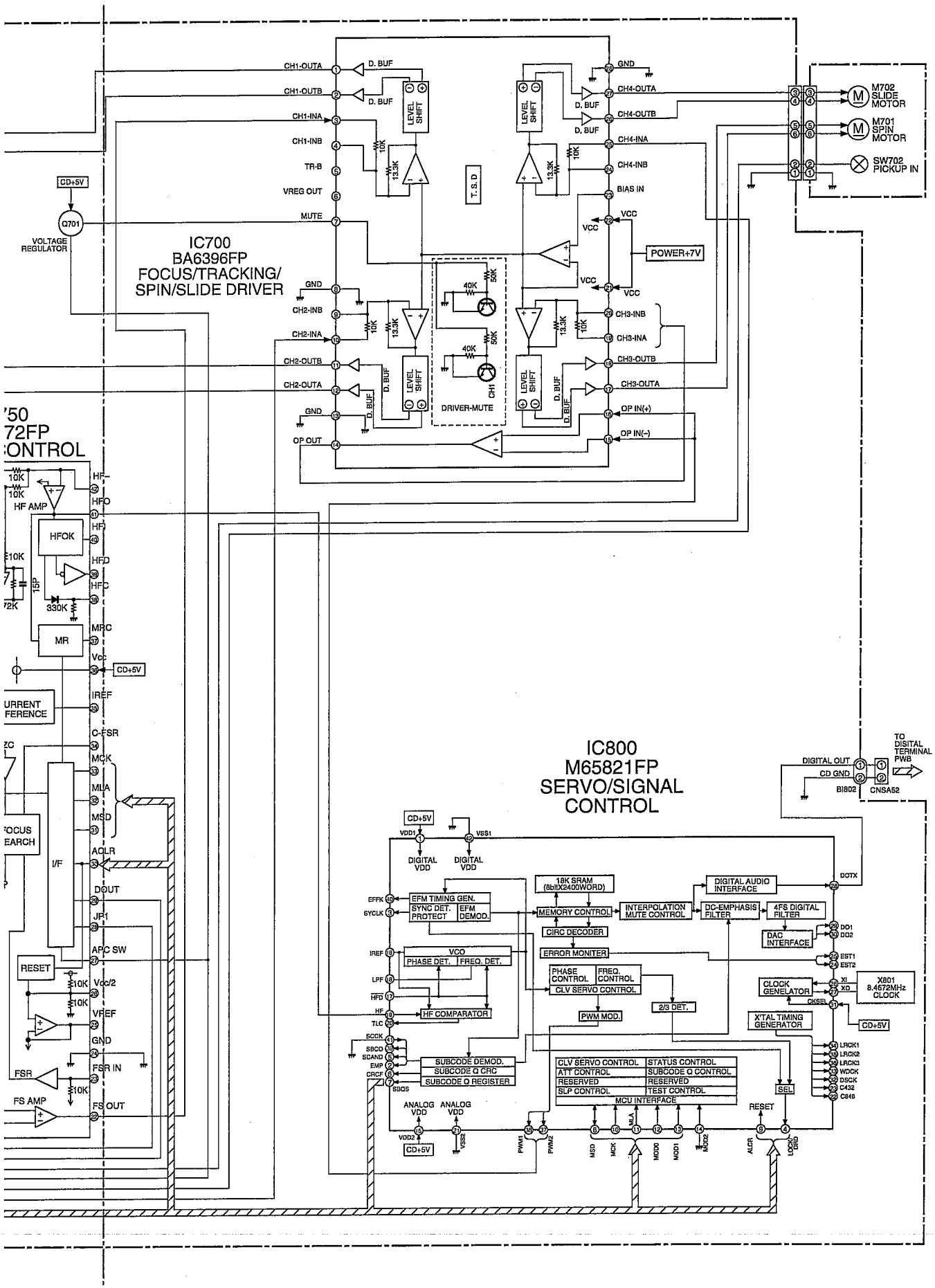


Figure 35 BLOCK DIAGRAM (4/6)

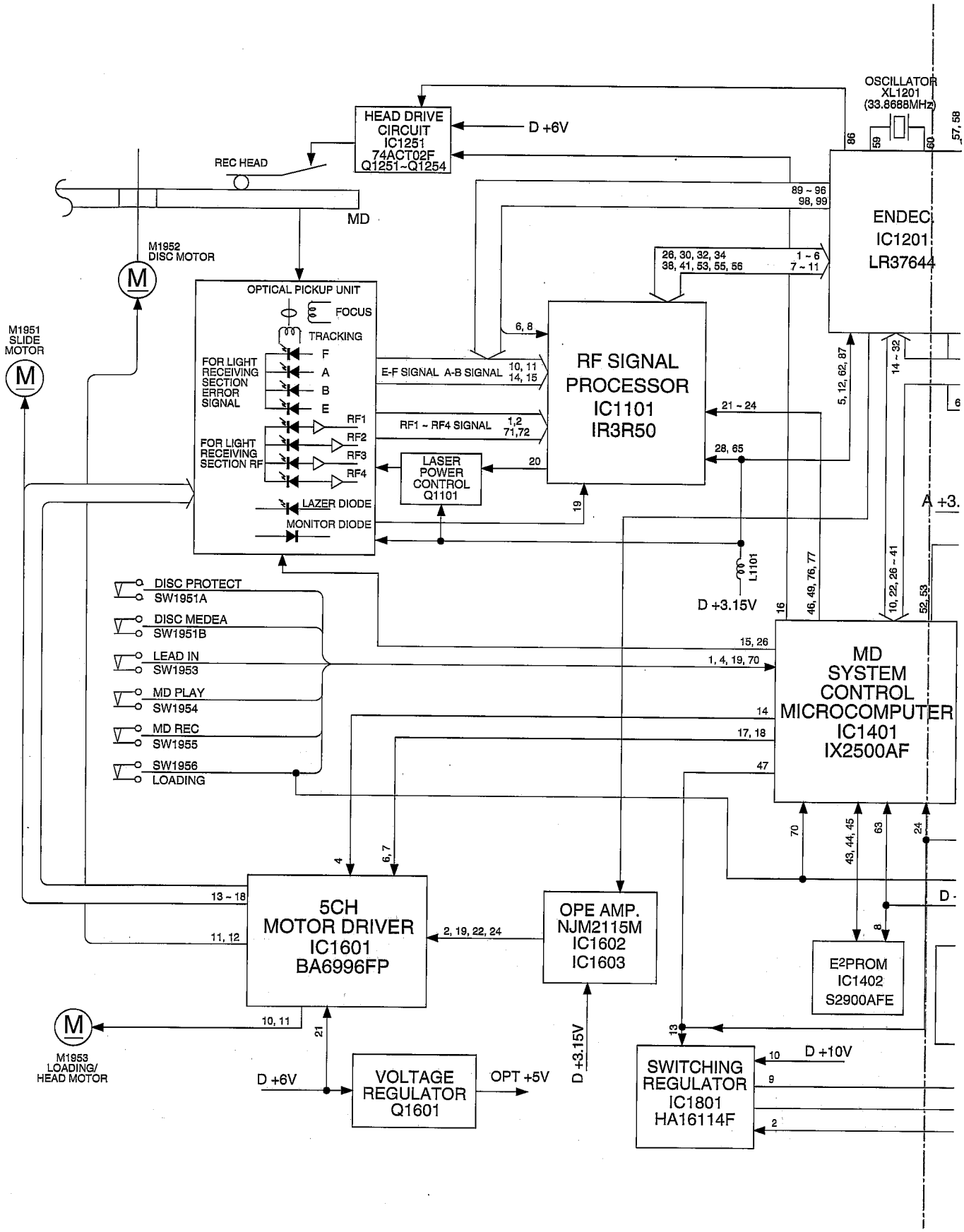


Figure 36 BLOCK DIAGRAM (5/6)

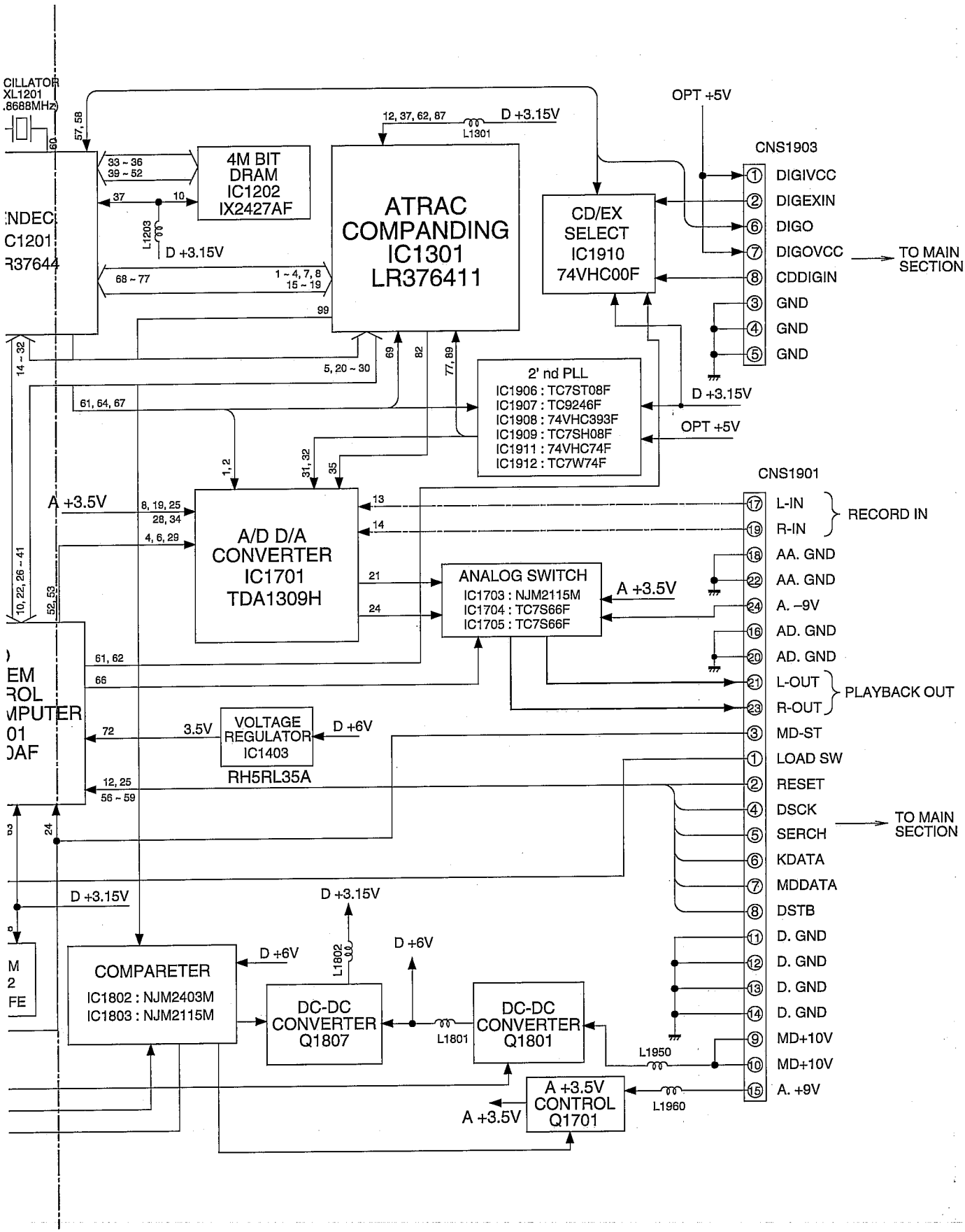
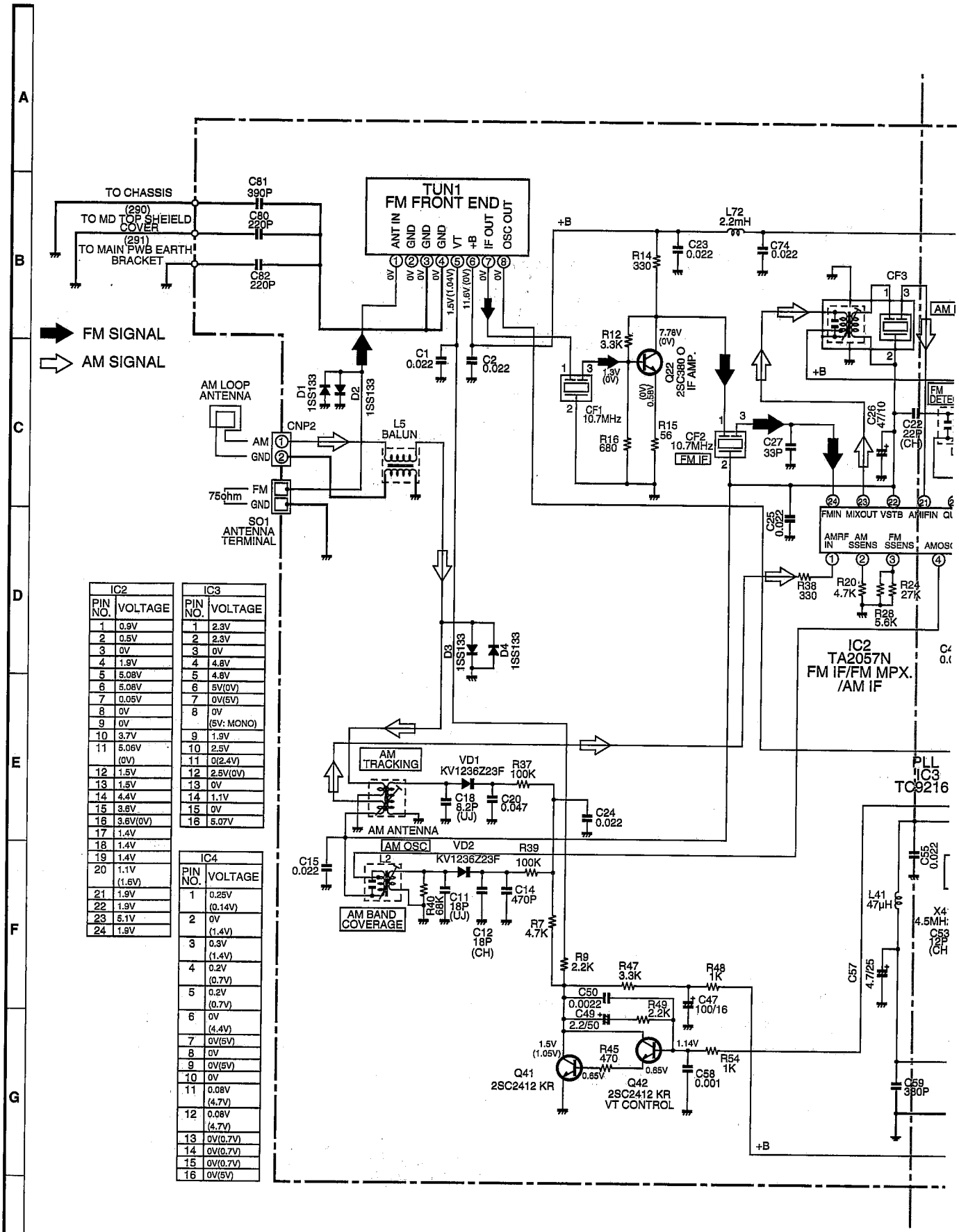


Figure 37 BLOCK DIAGRAM (6/6)



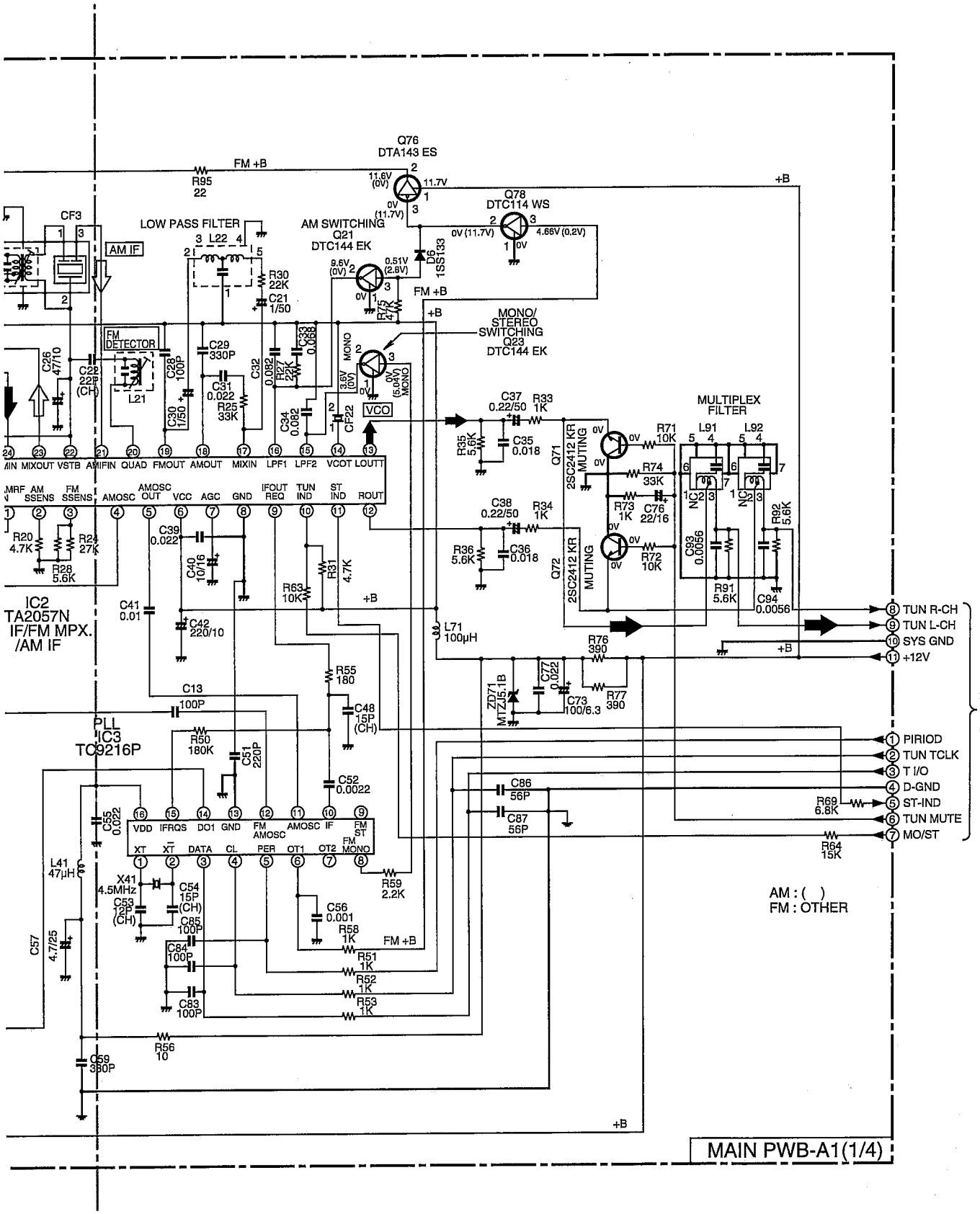
IC2	
PIN NO.	VOLTAGE
1	0.9V
2	0.5V
3	0V
4	1.9V
5	5.08V
6	5.08V
7	0.05V
8	0V
9	0V
10	3.7V
11	5.06V (0V)
12	1.5V
13	1.5V
14	4.4V
15	3.6V
16	3.6V(0V)
17	1.4V
18	1.4V
19	1.4V
20	1.1V (1.6V)
21	1.9V
22	1.9V
23	5.1V
24	1.9V

IC3	
PIN NO.	VOLTAGE
1	2.3V
2	2.3V
3	0V
4	4.8V
5	4.8V
6	5V(0V)
7	0V(5V)
8	0V (5V: MONO)
9	1.9V
10	2.5V
11	0(2.4V)
12	2.5V(0V)
13	0V
14	1.1V
15	0V
16	5.07V

IC4	
PIN NO.	VOLTAGE
1	0.25V (0.14V)
2	0V (1.4V)
3	0.3V (1.4V)
4	0.2V (0.7V)
5	0.2V (0.7V)
6	0V (4.4V)
7	0V(5V)
8	0V
9	0V(5V)
10	0V
11	0.08V (4.7V)
12	0.08V (4.7V)
13	0V(0.7V)
14	0V(0.7V)
15	0V(0.7V)
16	0V(5V)

NOTES ON SCHEMATIC DIAGRAM can be found on page 30.

Figure 38 SCHEMATIC DIAGRAM (1/24)



7	8	9	10	11	12

Figure 39 SCHEMATIC DIAGRAM (2/24)

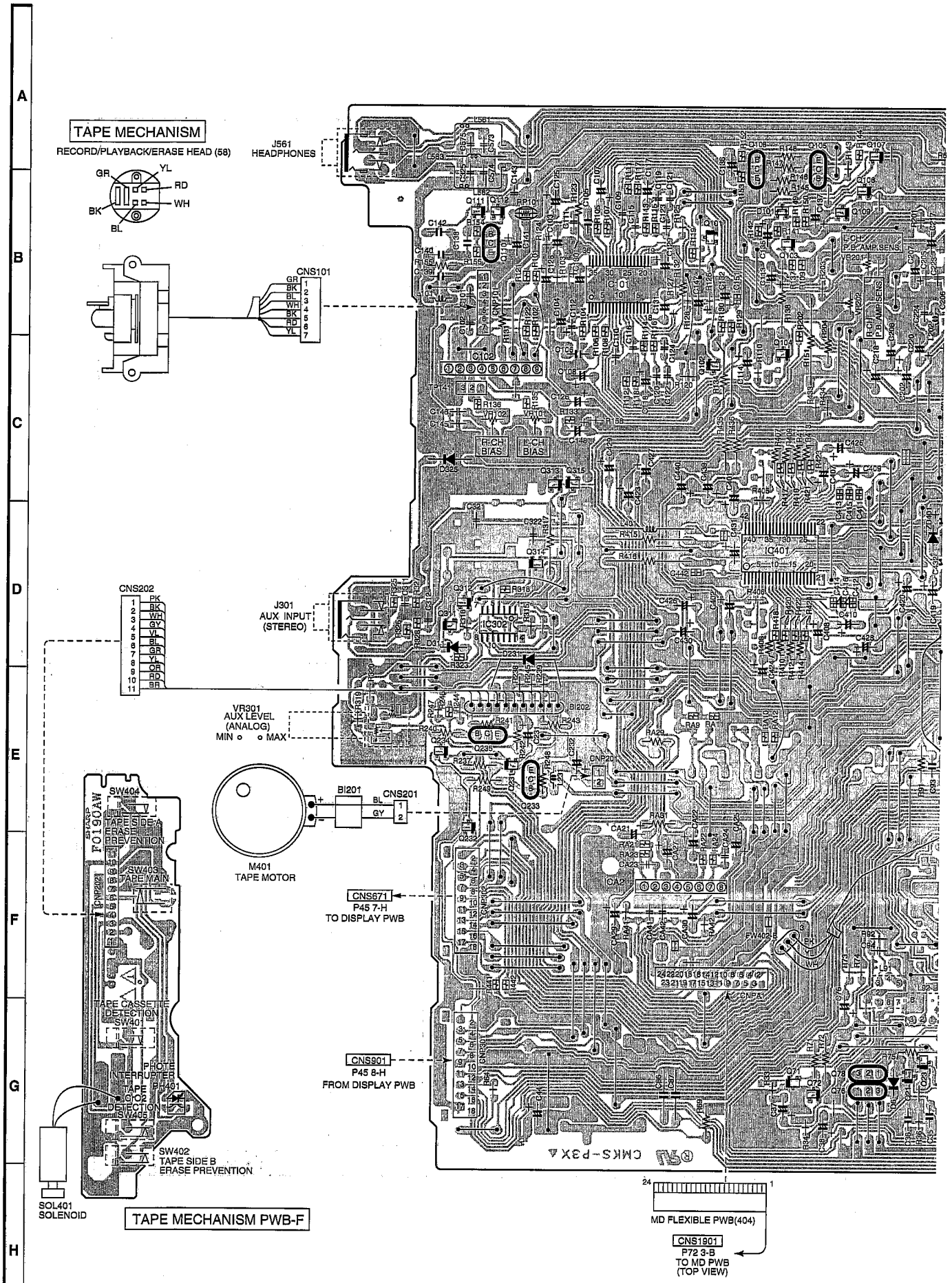
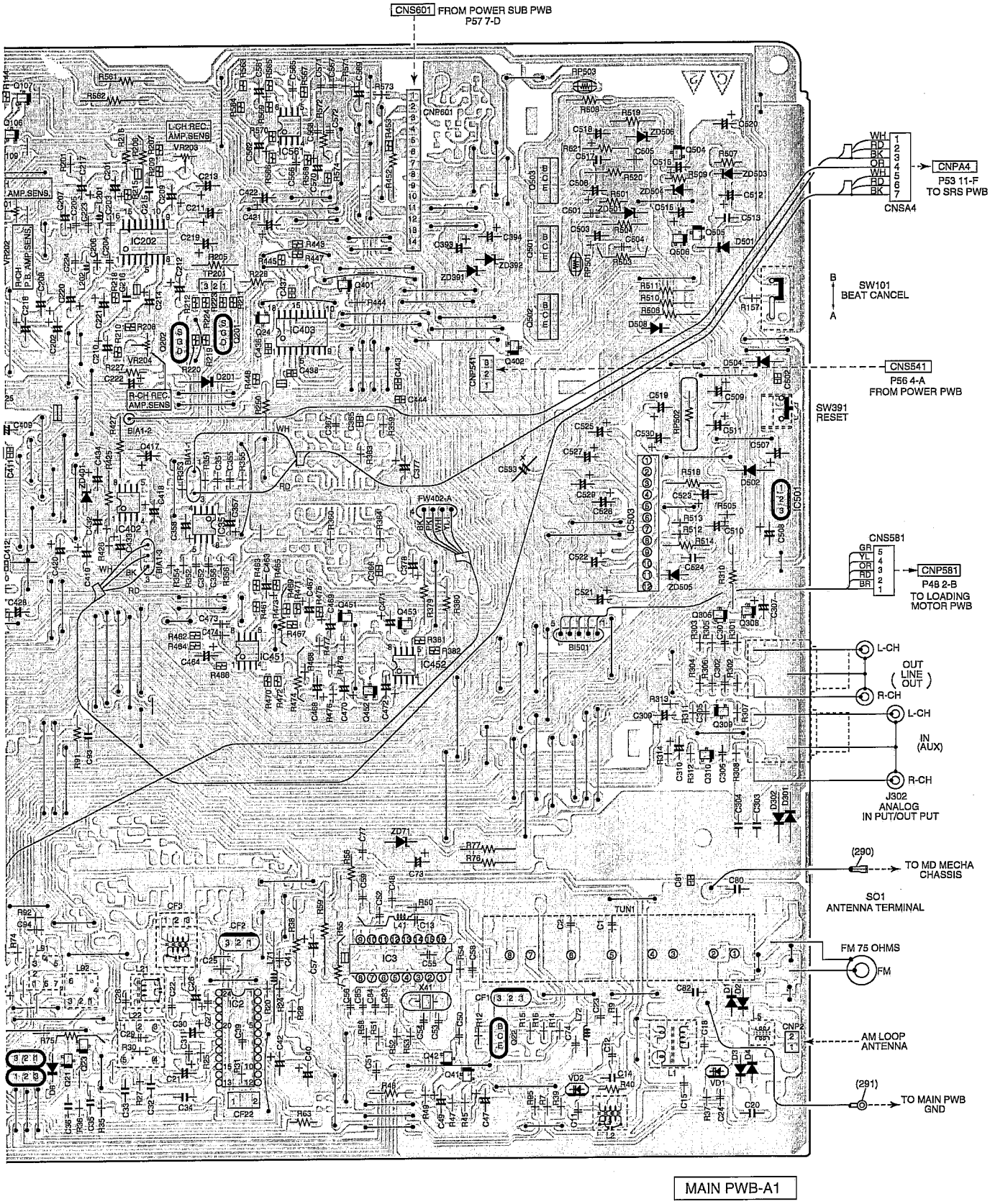


Figure 40 WIRING SIDE OF P.W. BOARD (1/13)



COLOR	BR	RD(R)	OR	YL	GR	BL	VL	GY	WH(W)	BK	PK
TABLE	BROWN	RED	ORANGE	YELLOW	GREEN	BLUE	VIOLET	GRAY	WHITE	BLACK	PINK

7	8	9	10	11	12

Figure 41 WIRING SIDE OF P.W. BOARD (2/13)

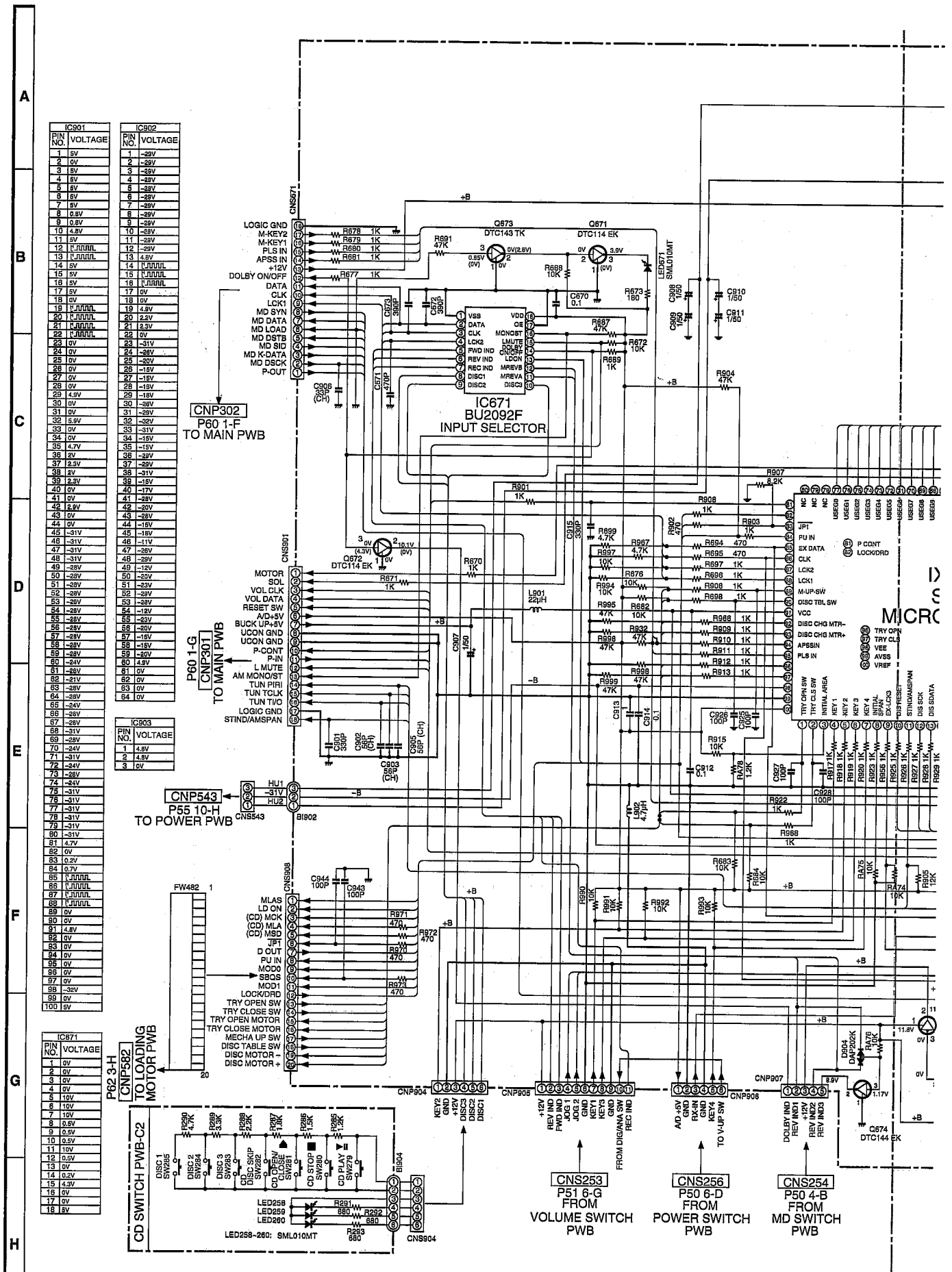


Figure 42 SCHEMATIC DIAGRAM (3/24)

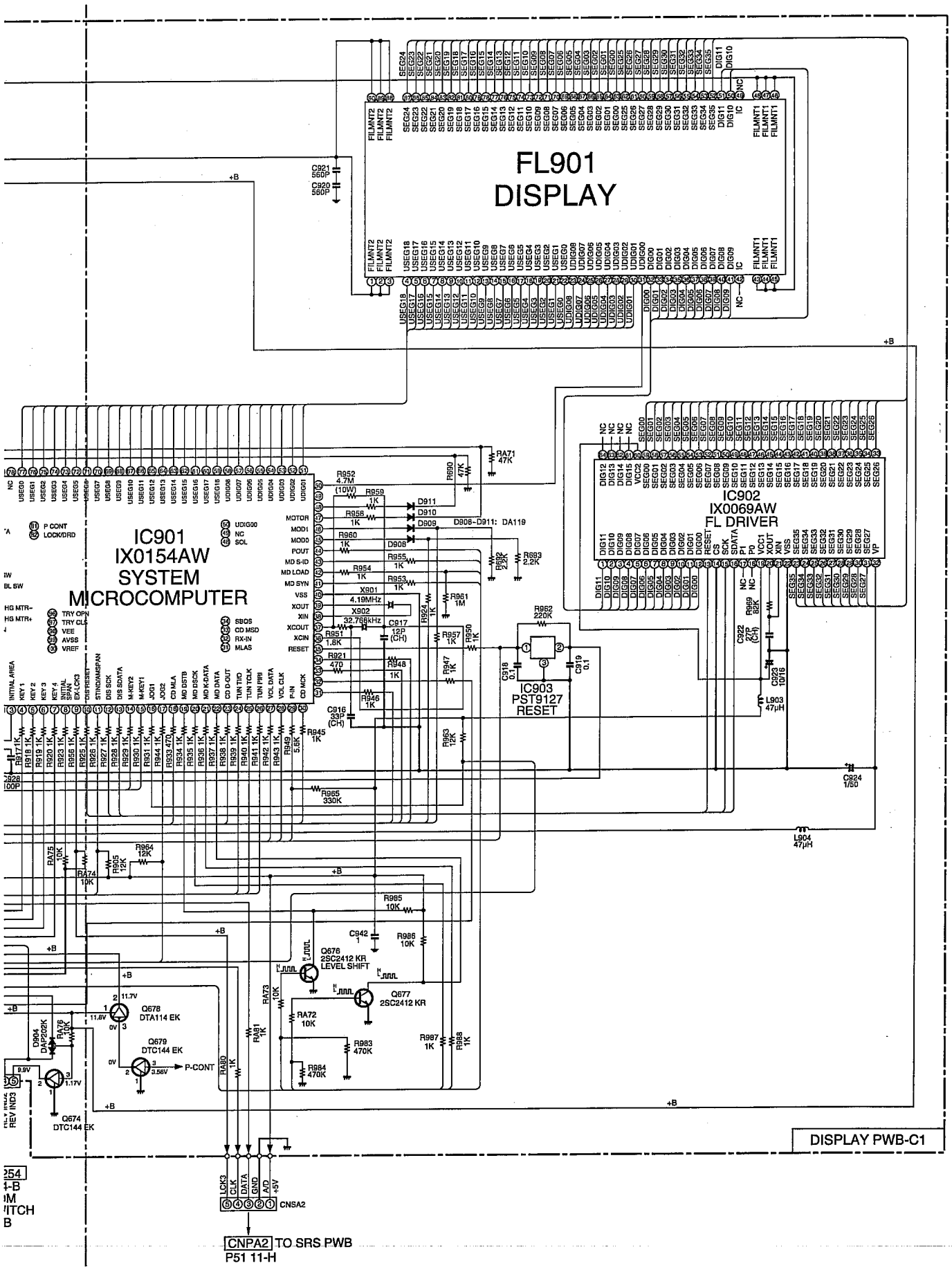
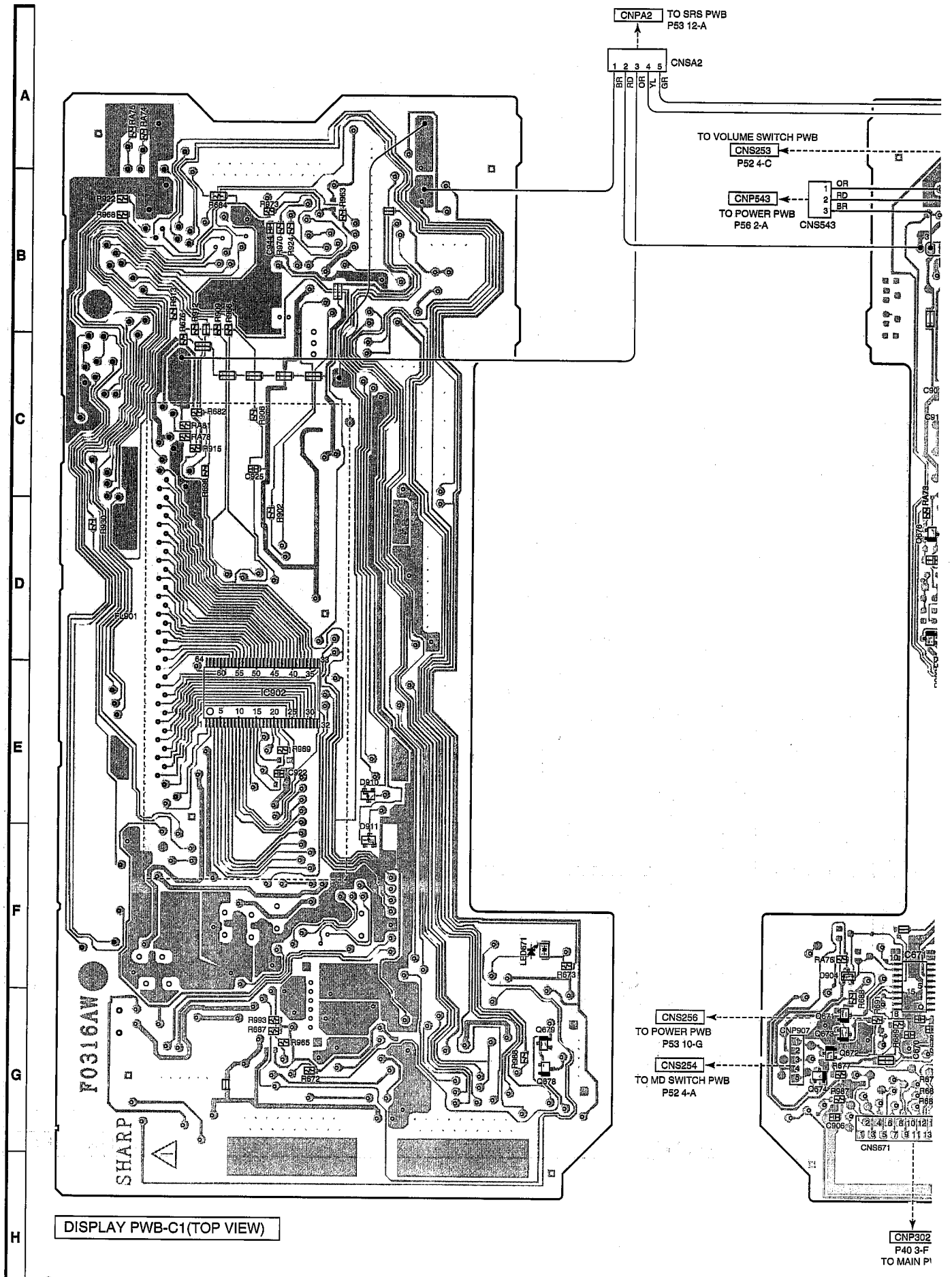
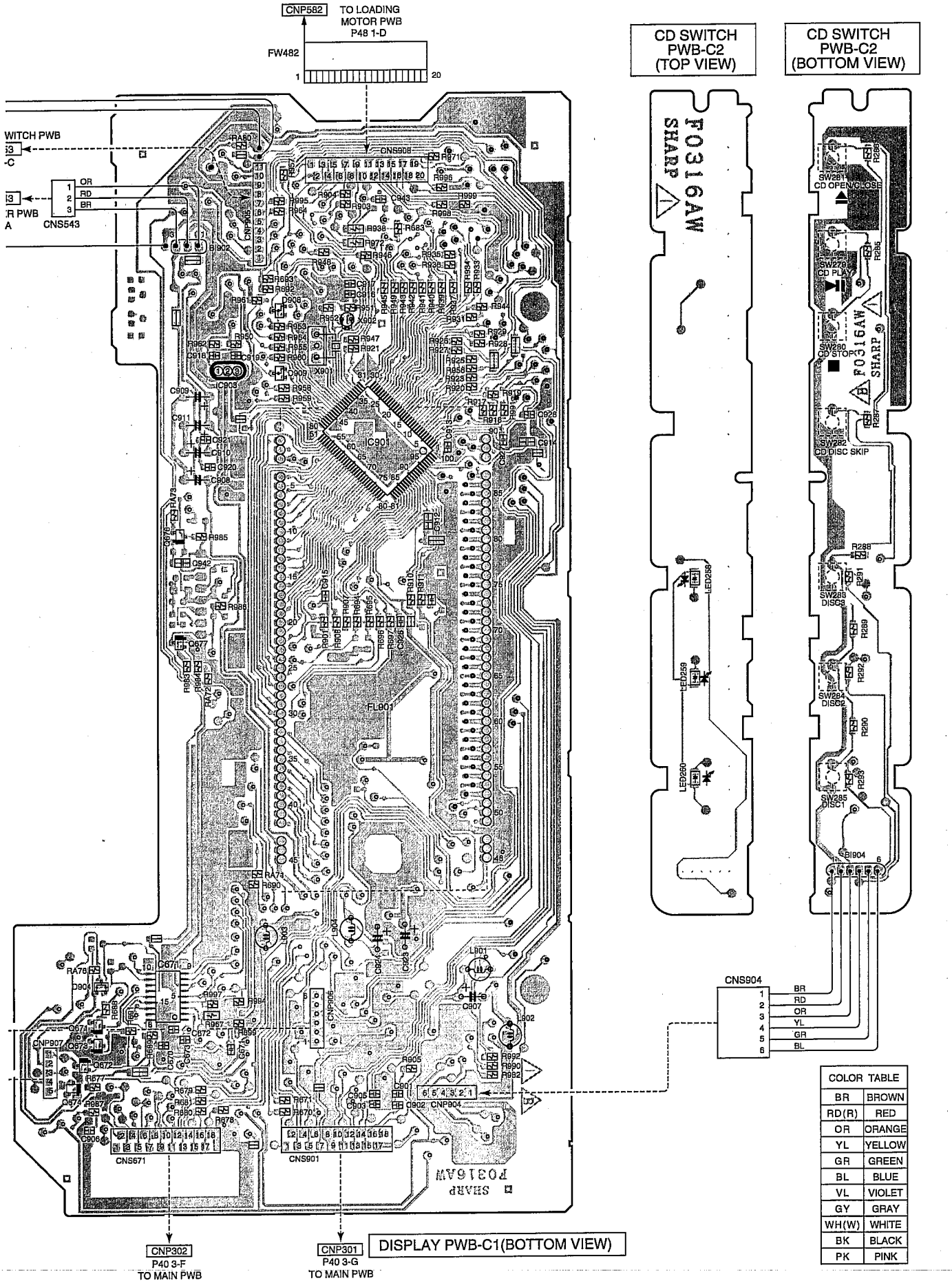


Figure 43 SCHEMATIC DIAGRAM (4/24)



○ :Through-hole where the top and bottom patterns are connected.

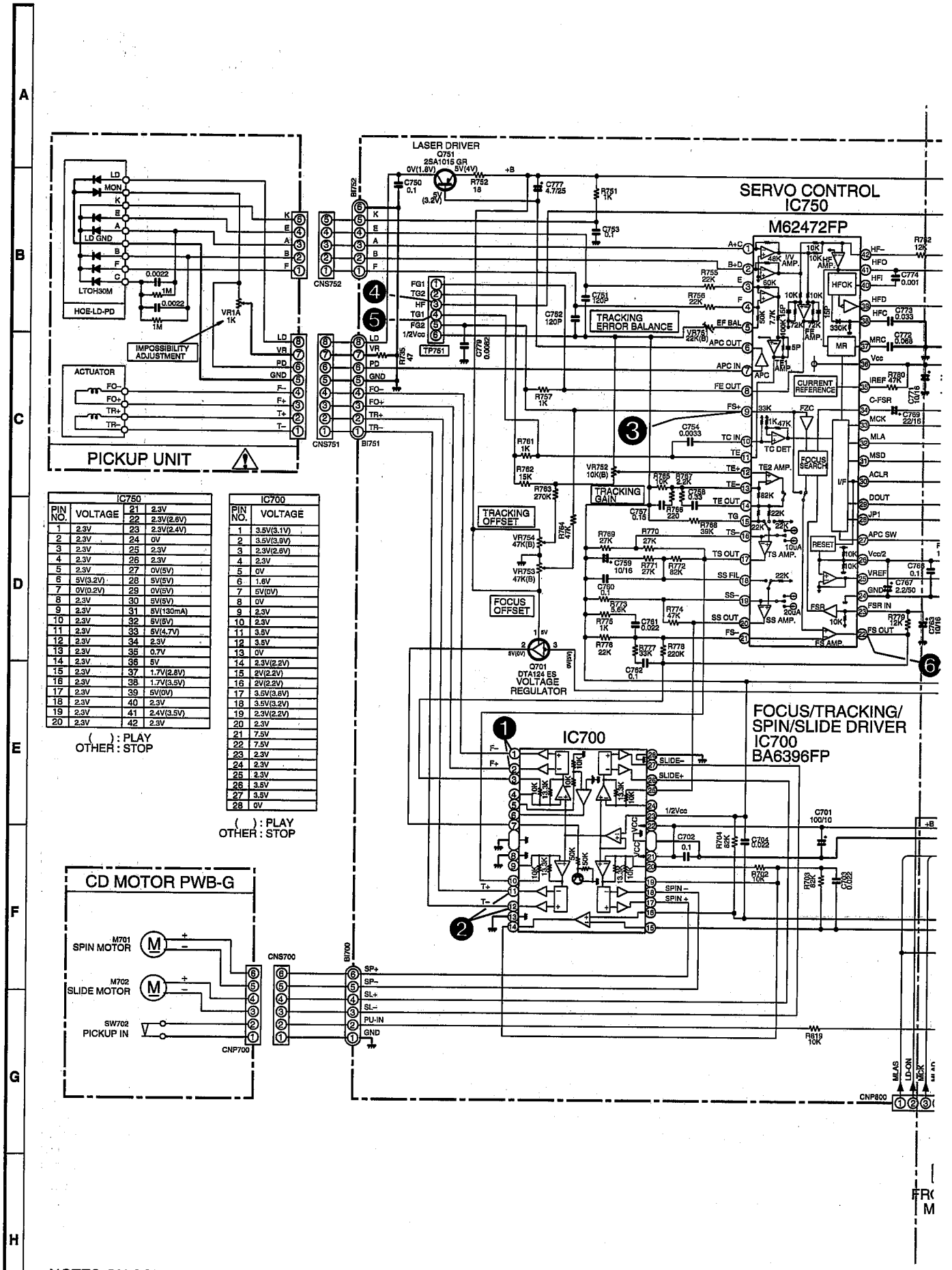
Figure 44 WIRING SIDE OF P.W. BOARD (3/13)



COLOR TABLE	
BR	BROWN
RD(R)	RED
OR	ORANGE
YL	YELLOW
GR	GREEN
BL	BLUE
VL	VIOLET
GY	GRAY
WH(W)	WHITE
BK	BLACK
PK	PINK

7	8	9	10	11	12

Figure 45 WIRING SIDE OF P.W. BOARD (4/13)



IC750			
PIN NO.	VOLTAGE	21	2.3V
		22	2.3V(2.6V)
1	2.3V	23	2.3V(2.4V)
2	2.3V	24	0V
3	2.3V	25	2.3V
4	2.3V	26	2.3V
5	2.3V	27	0V(5V)
6	5V(3.2V)	28	5V(5V)
7	0V(0.2V)	29	0V(5V)
8	2.3V	30	5V(5V)
9	2.3V	31	5V(130mA)
10	2.3V	32	5V(5V)
11	2.9V	33	5V(4.7V)
12	2.3V	34	2.3V
13	2.3V	35	0.7V
14	2.3V	36	5V
15	2.3V	37	1.7V(2.8V)
16	2.3V	38	1.7V(3.5V)
17	2.3V	39	5V(0V)
18	2.3V	40	2.3V
19	2.3V	41	2.4V(3.5V)
20	2.3V	42	2.3V

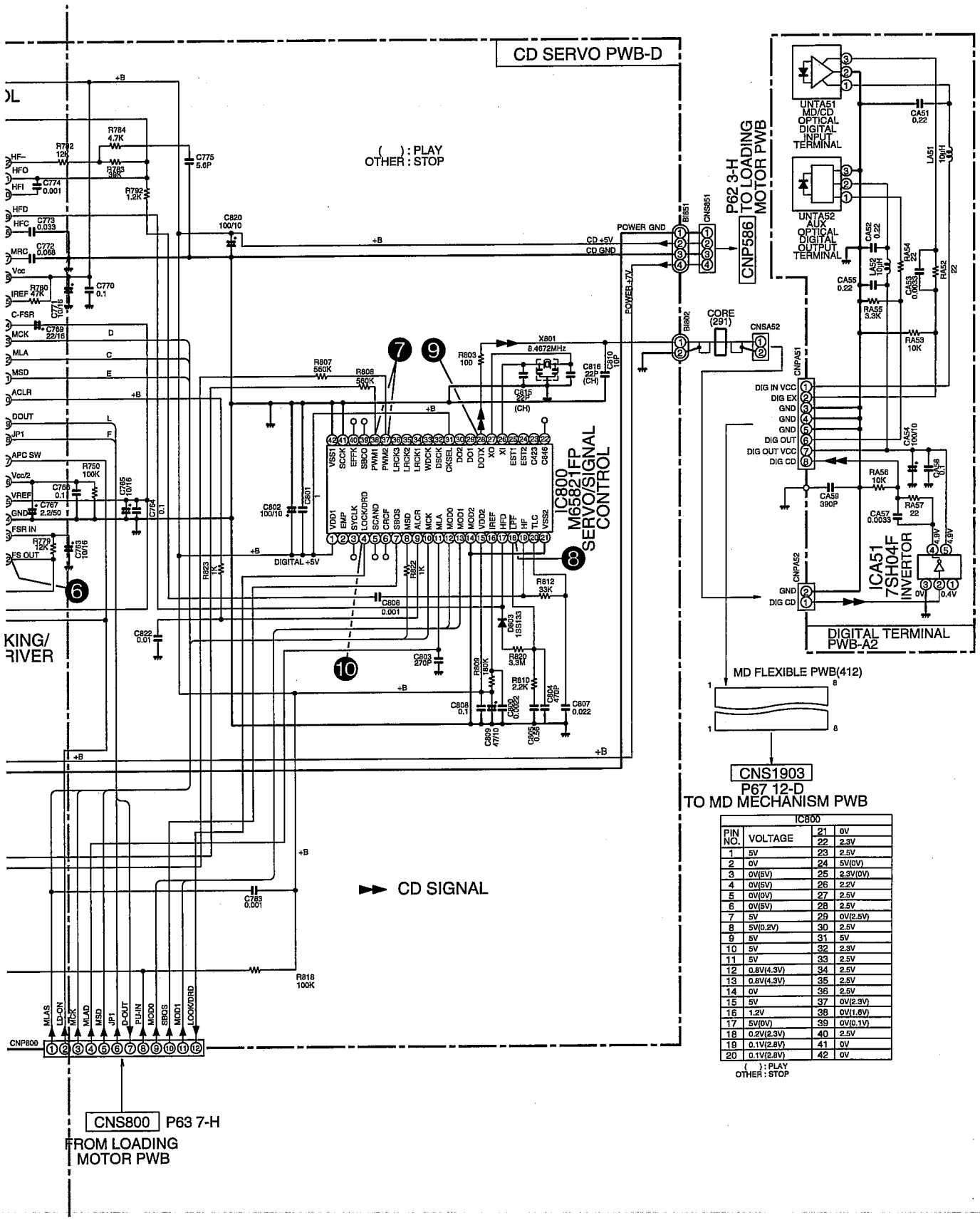
( ) : PLAY
OTHER : STOP

IC700	
PIN NO.	VOLTAGE
1	3.5V(3.1V)
2	3.5V(3.9V)
3	2.3V(2.6V)
4	2.3V
5	0V
6	1.6V
7	5V(0V)
8	0V
9	2.3V
10	2.3V
11	3.5V
12	3.5V
13	0V
14	2.3V(2.2V)
15	2V(2.2V)
16	2V(2.2V)
17	3.5V(3.6V)
18	3.5V(3.2V)
19	2.3V(2.2V)
20	2.3V
21	7.5V
22	7.5V
23	2.3V
24	2.3V
25	2.3V
26	3.5V
27	3.5V
28	0V

( ) : PLAY
OTHER : STOP

NOTES ON SCHEMATIC DIAGRAM can be found on page 30.

Figure 46 SCHEMATIC DIAGRAM (5/24)



IC800			
PIN NO.	VOLTAGE	21	0V
1	5V	22	2.3V
2	0V	23	2.5V
3	0V(5V)	24	5V(0V)
4	0V(5V)	25	2.3V(0V)
5	0V(0V)	26	2.2V
6	0V(5V)	27	2.5V
7	5V	28	2.5V
8	5V(0.2V)	29	0V(2.5V)
9	5V	30	2.5V
10	5V	31	5V
11	5V	32	2.3V
12	0.8V(4.3V)	33	2.5V
13	0.8V(4.3V)	34	2.5V
14	0V	35	2.5V
15	5V	36	2.5V
16	1.2V	37	0V(2.3V)
17	5V(0V)	38	0V(1.6V)
18	0.2V(2.3V)	39	0V(0.1V)
19	0.1V(2.8V)	40	2.5V
20	0.1V(2.8V)	41	0V
		42	0V

( ) : PLAY
OTHER : STOP

The numbers ❶ to ❿ are waveform numbers shown in page 31.

7	8	9	10	11	12

Figure 47 SCHEMATIC DIAGRAM (6/24)

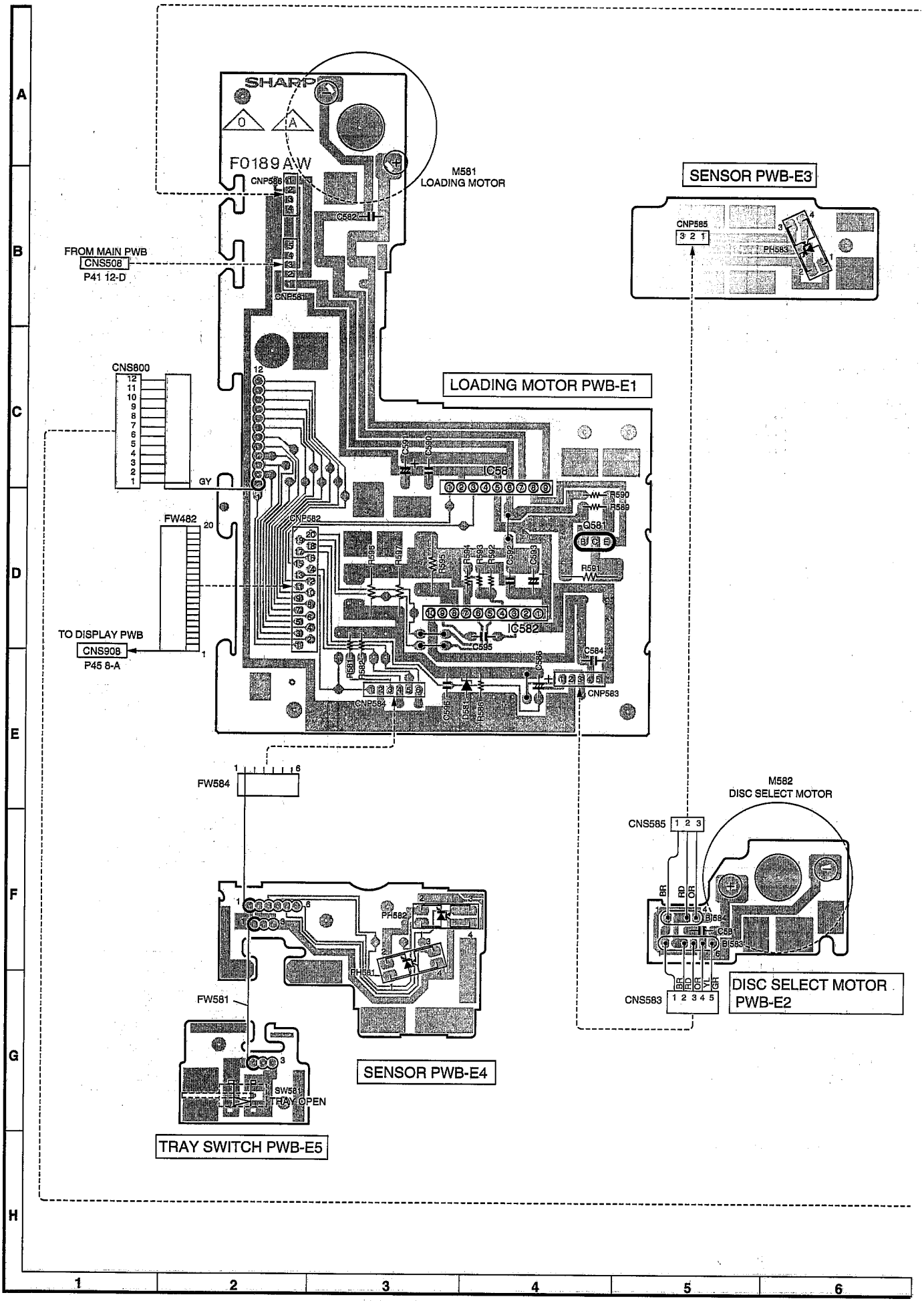
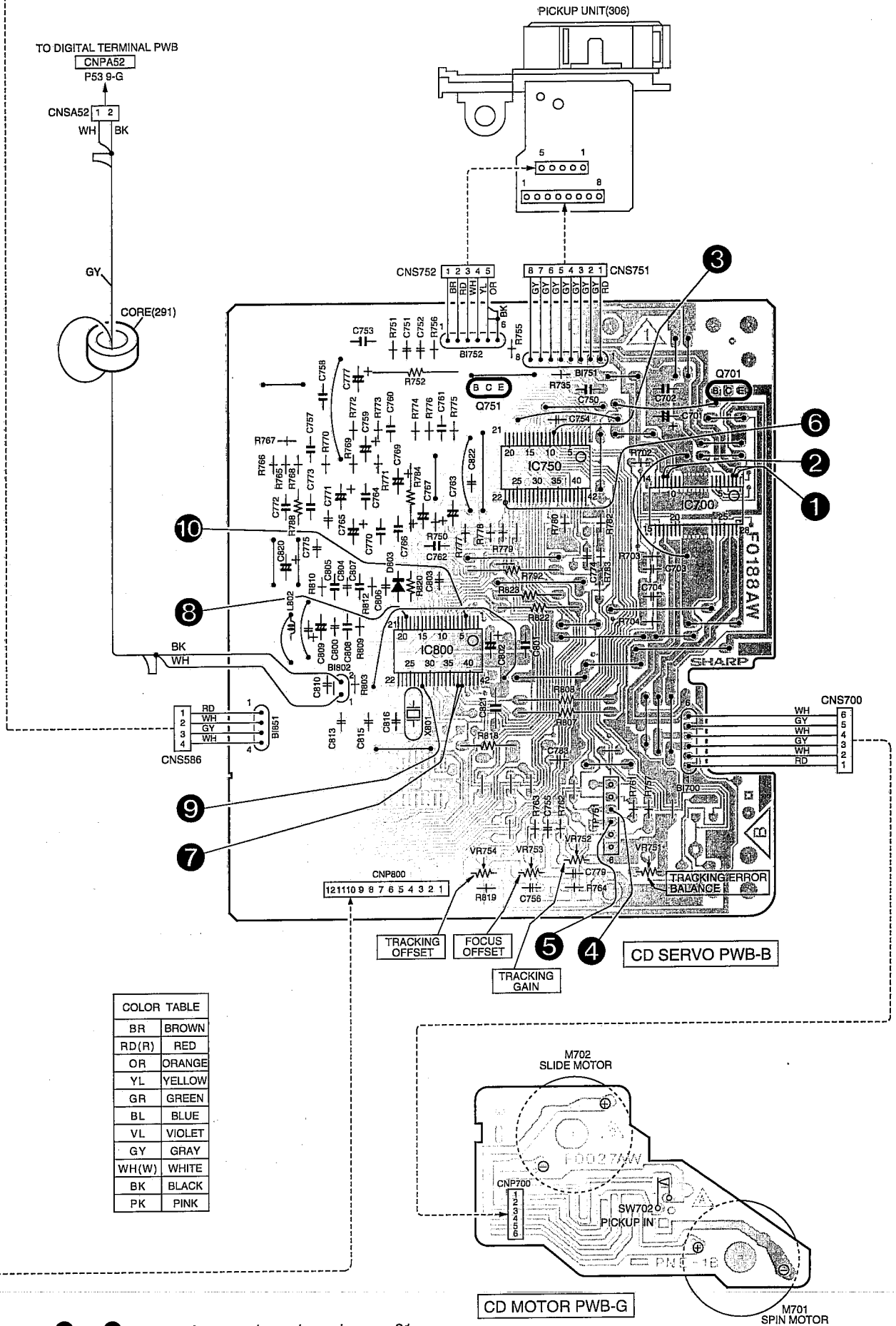


Figure 48 WIRING SIDE OF P.W. BOARD (5/13)

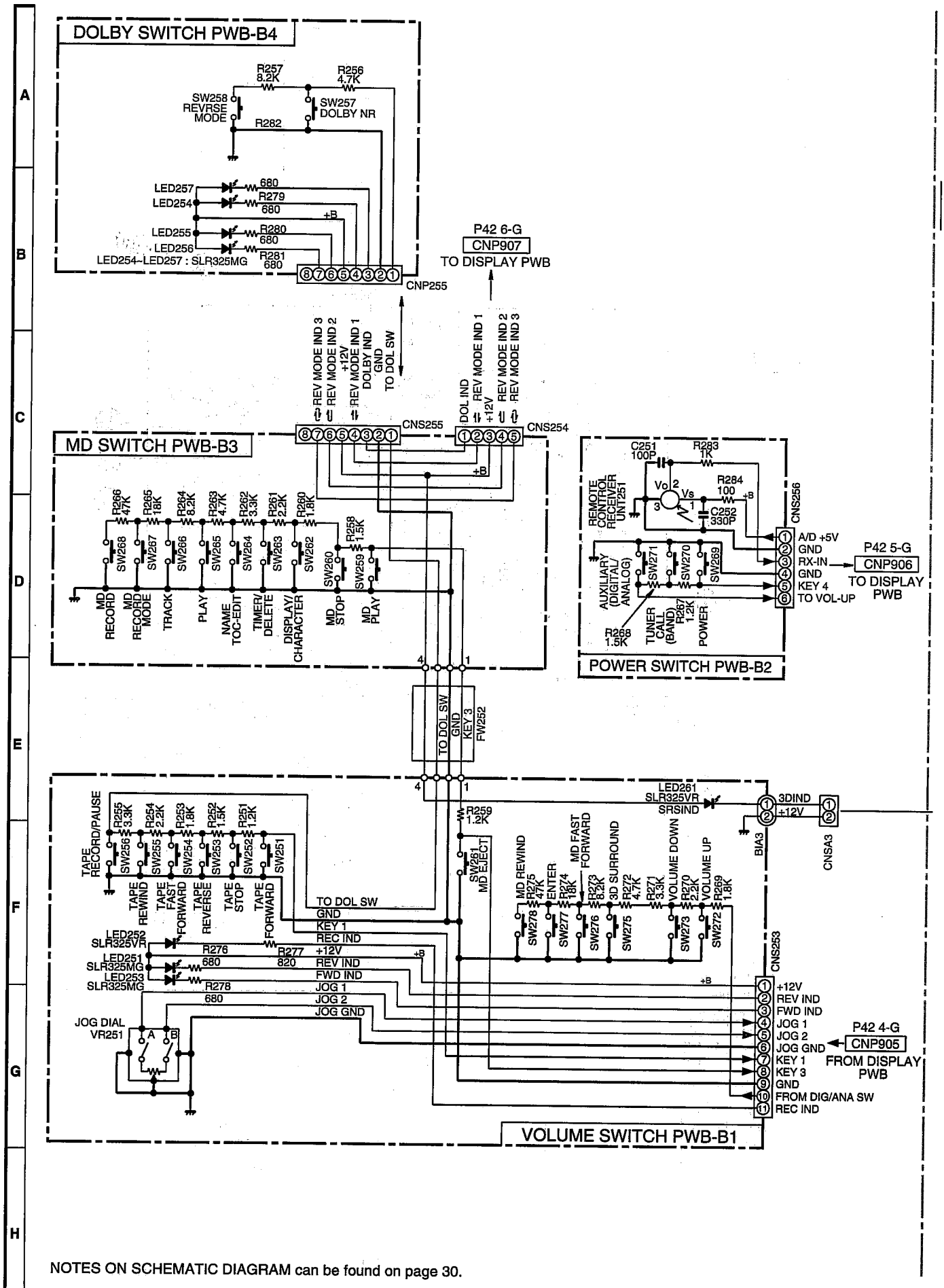


COLOR TABLE	
BR	BROWN
RD(R)	RED
OR	ORANGE
YL	YELLOW
GR	GREEN
BL	BLUE
VL	VIOLET
GY	GRAY
WH(W)	WHITE
BK	BLACK
PK	PINK

The numbers ❶ to ❿ are waveform numbers shown in page 31.

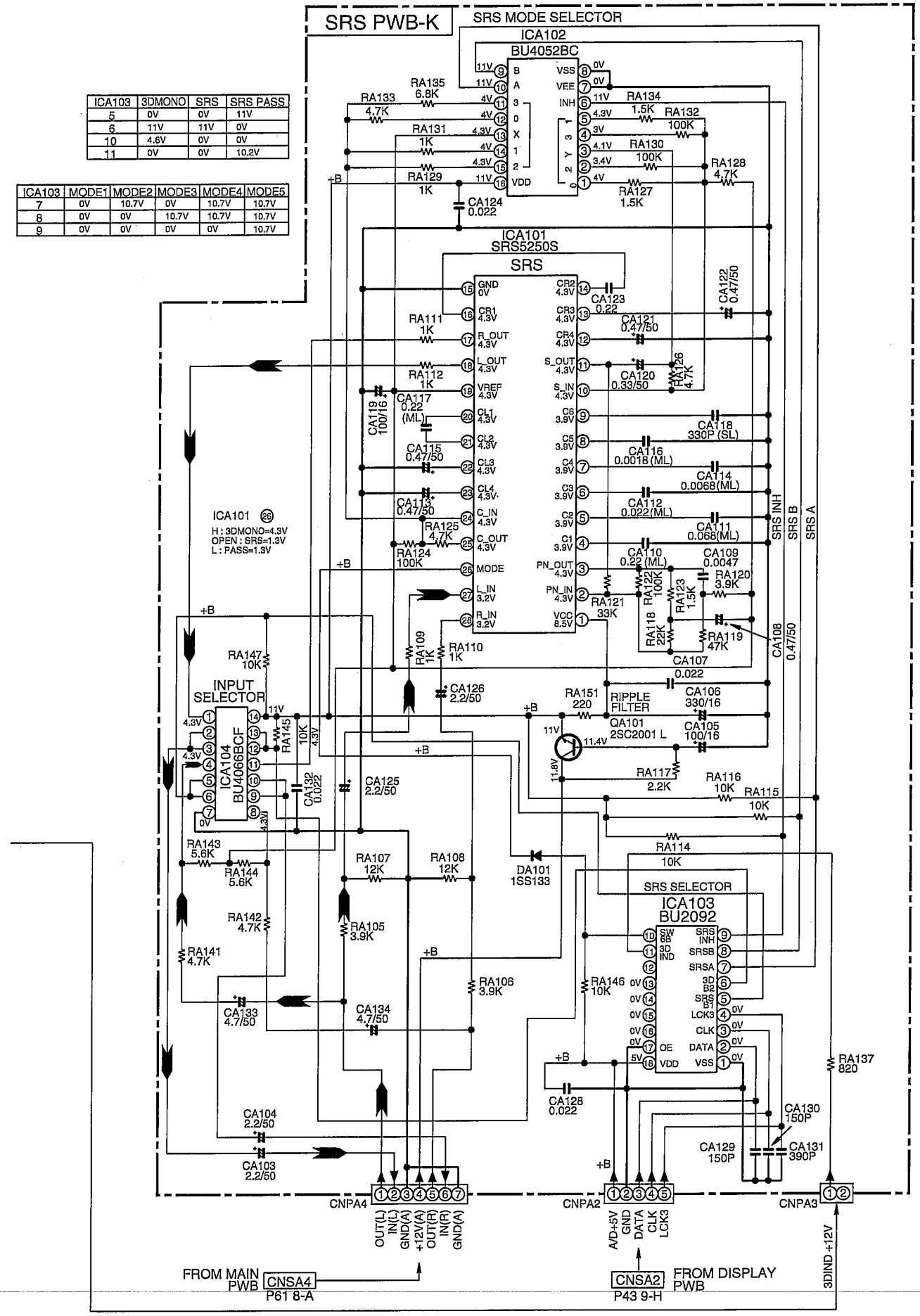
7	8	9	10	11	12

Figure 49 WIRING SIDE OF P.W. BOARD (6/13)



NOTES ON SCHEMATIC DIAGRAM can be found on page 30.

Figure 50 SCHEMATIC DIAGRAM (7/24)



ICA103	3DMONO	SRS	SRS PASS
5	0V	0V	11V
6	11V	11V	0V
10	4.6V	0V	0V
11	0V	0V	10.2V

ICA103	MODE1	MODE2	MODE3	MODE4	MODE5
7	0V	10.7V	0V	10.7V	10.7V
8	0V	0V	10.7V	10.7V	10.7V
9	0V	0V	0V	0V	10.7V

7	8	9	10	11	12

Figure 51 SCHEMATIC DIAGRAM (8/24)

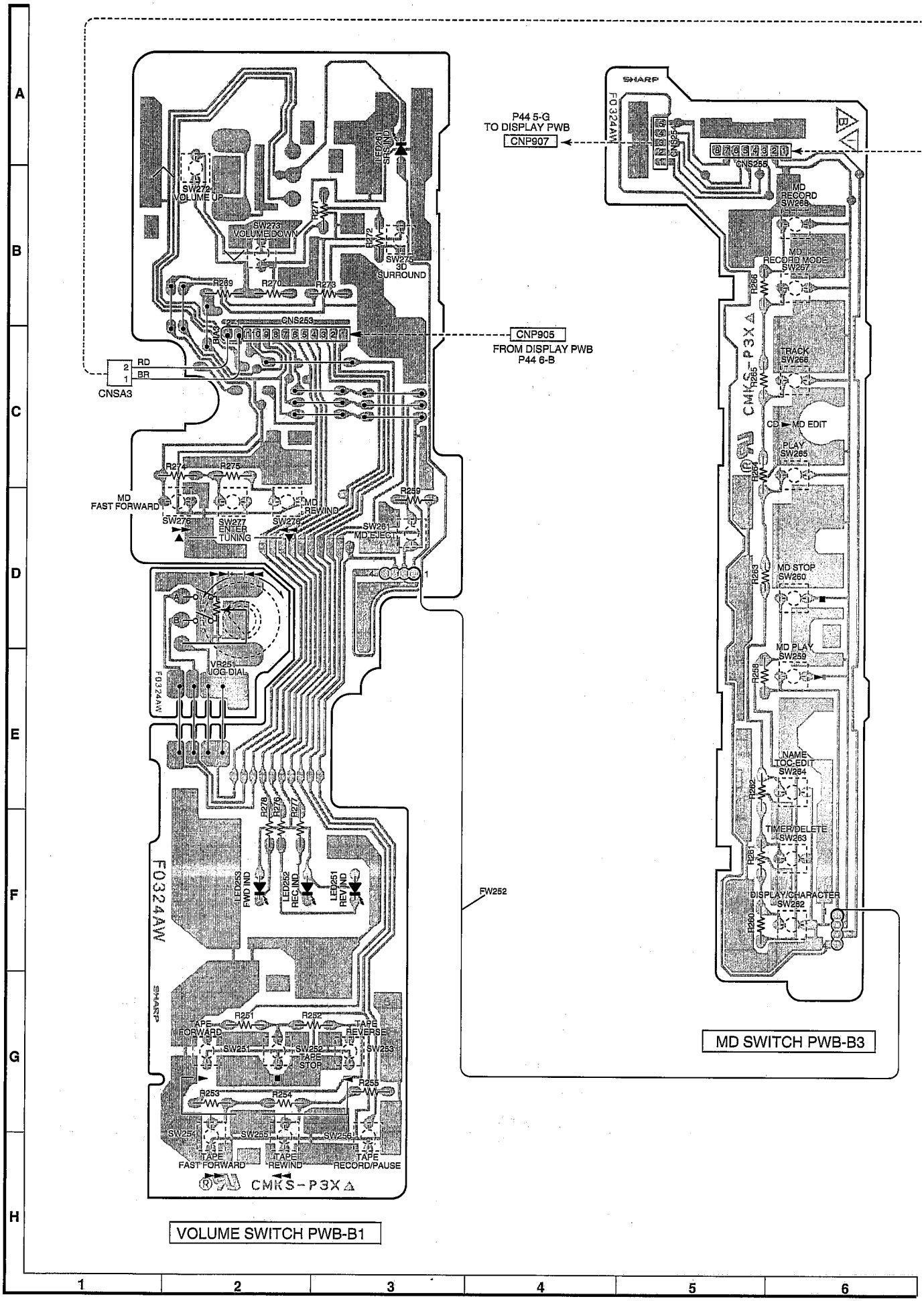
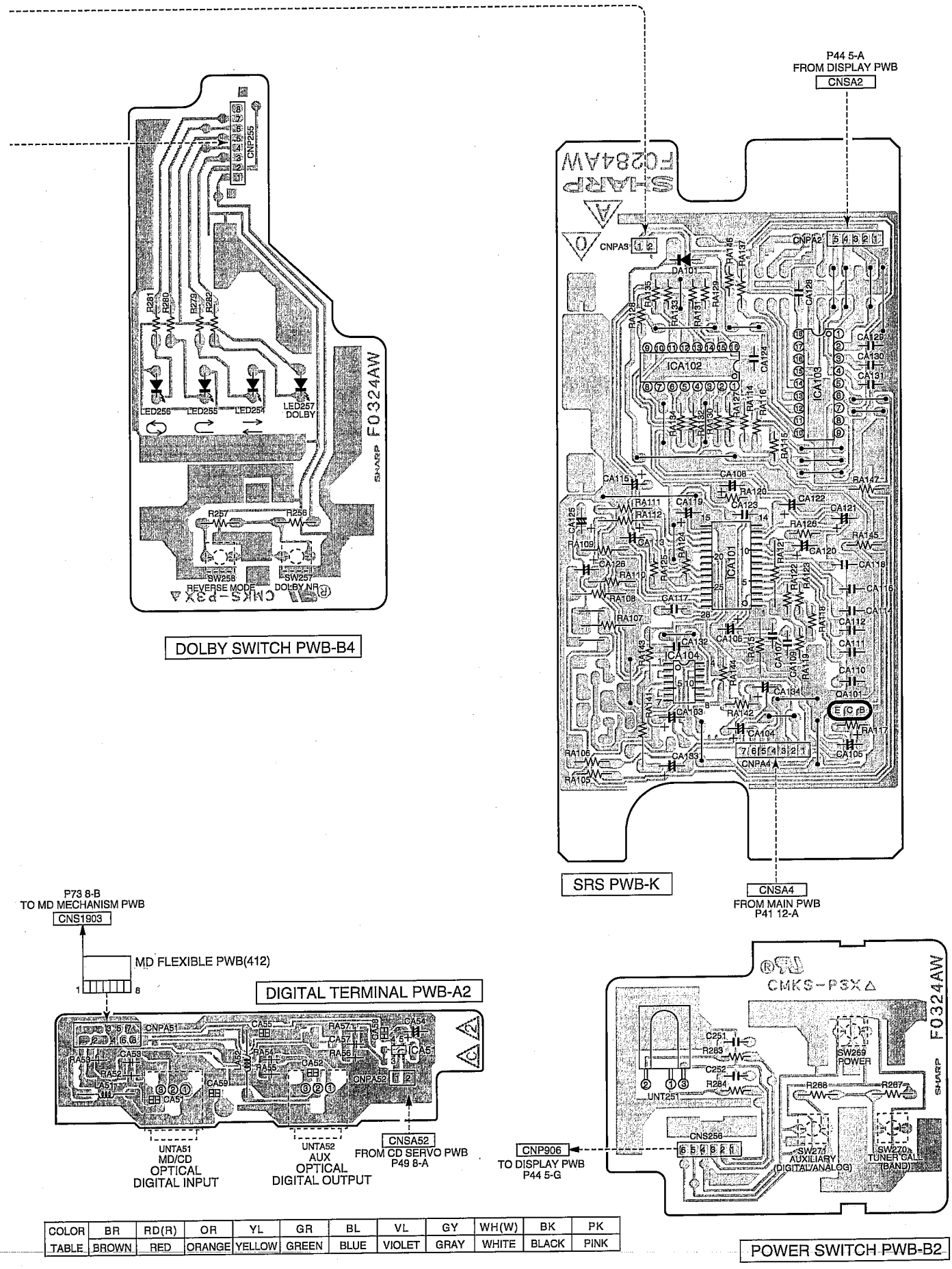


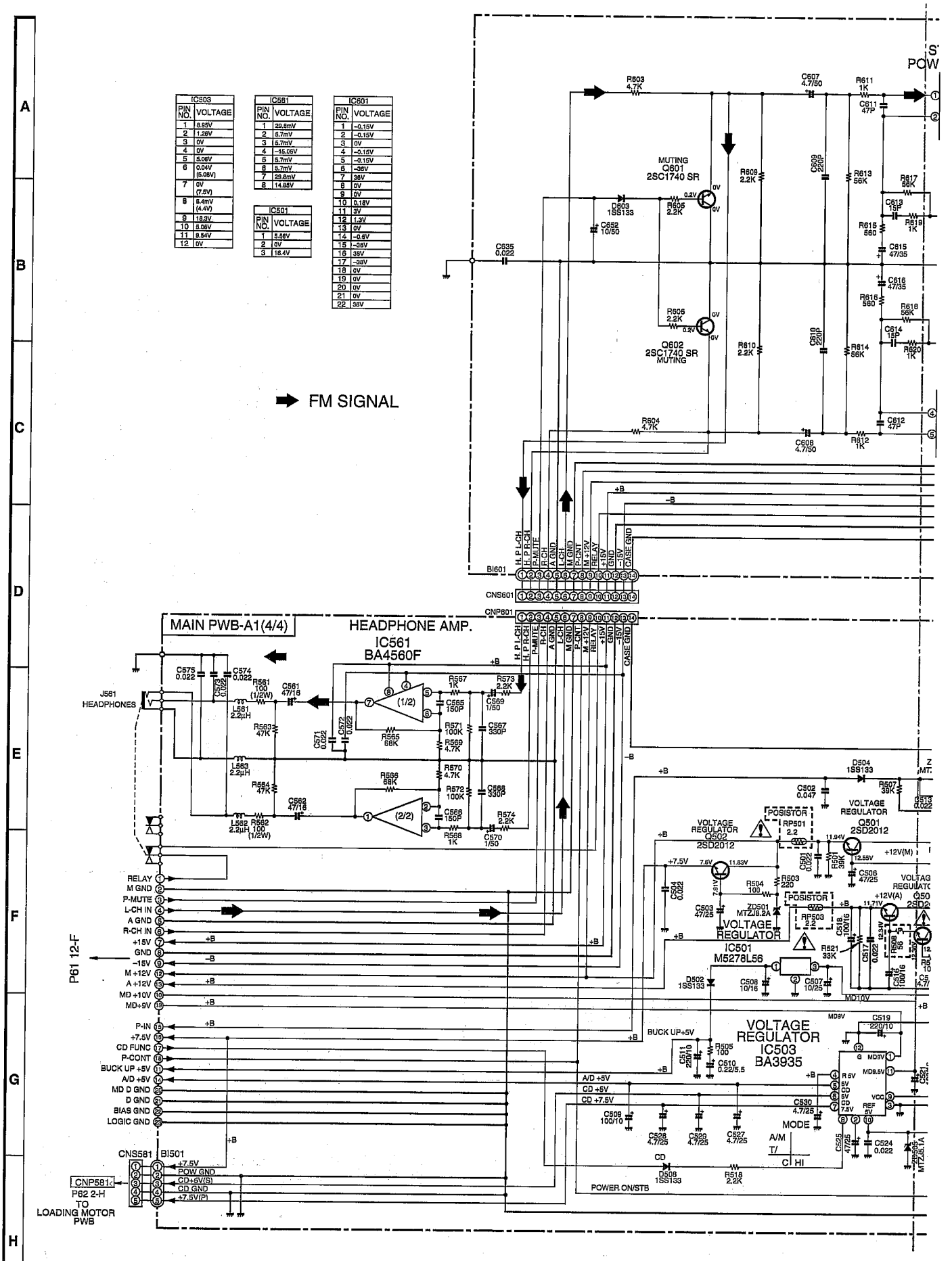
Figure 52 WIRING SIDE OF P.W. BOARD (7/13)



COLOR	BR	RD(R)	OR	YL	GR	BL	VL	GY	WH(W)	BK	PK
TABLE	BROWN	RED	ORANGE	YELLOW	GREEN	BLUE	VIOLET	GRAY	WHITE	BLACK	PINK

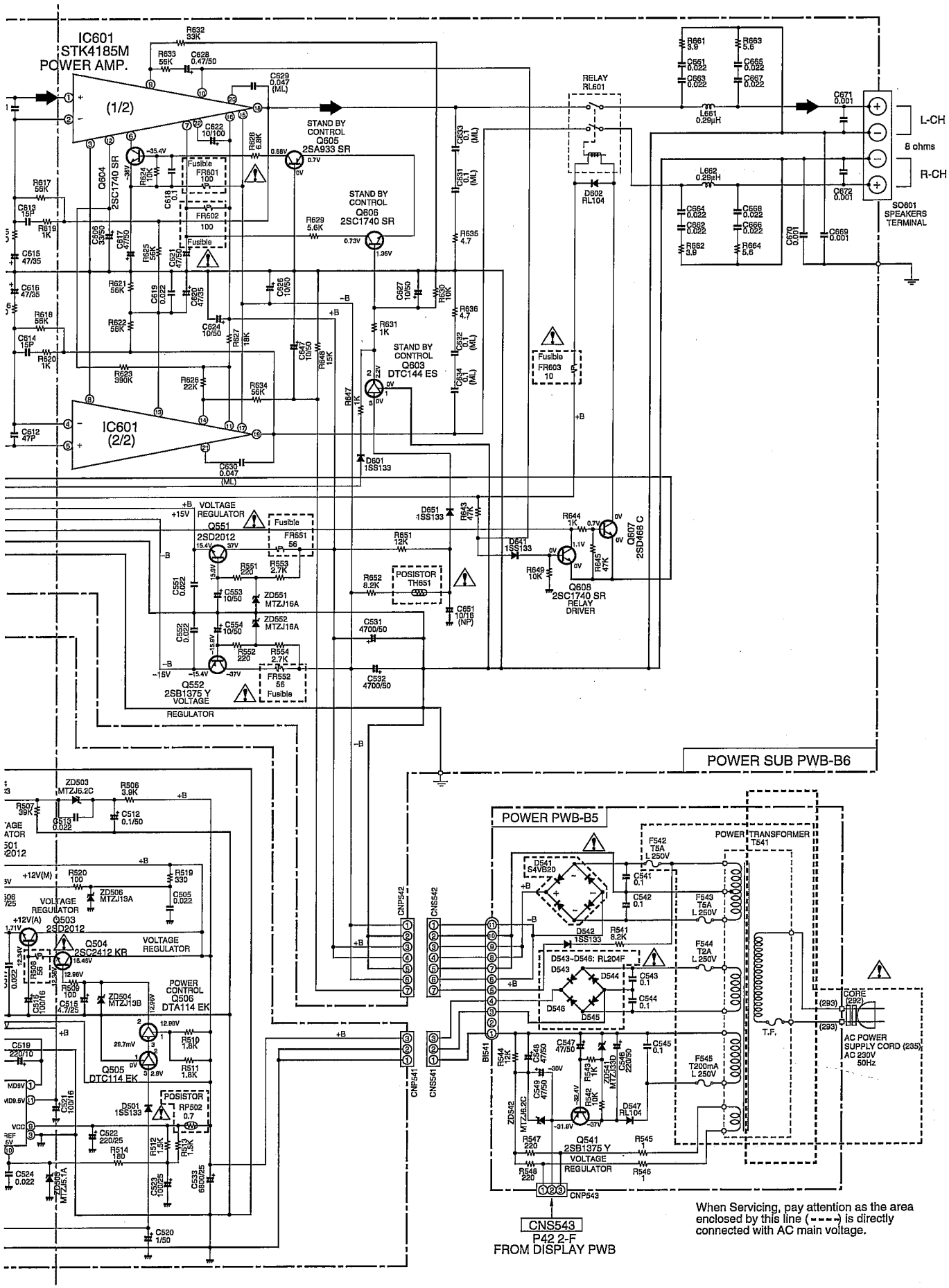
7	8	9	10	11	12

Figure 53 WIRING SIDE OF P.W. BOARD (8/13)



NOTES ON SCHEMATIC DIAGRAM can be found on page 30.

Figure 54 SCHEMATIC DIAGRAM (9/24)



7	8	9	10	11	12

Figure 55 SCHEMATIC DIAGRAM (10/24)

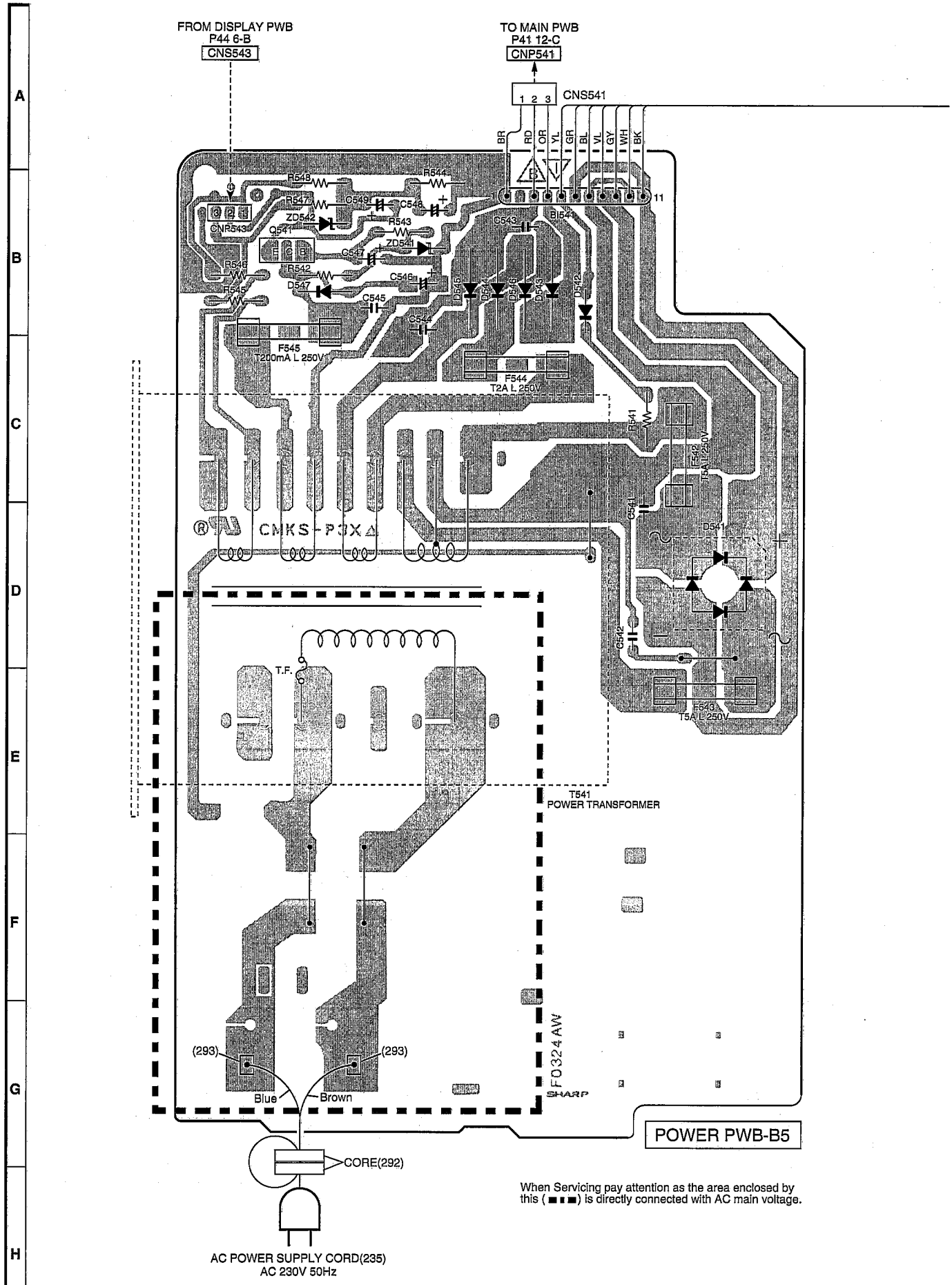
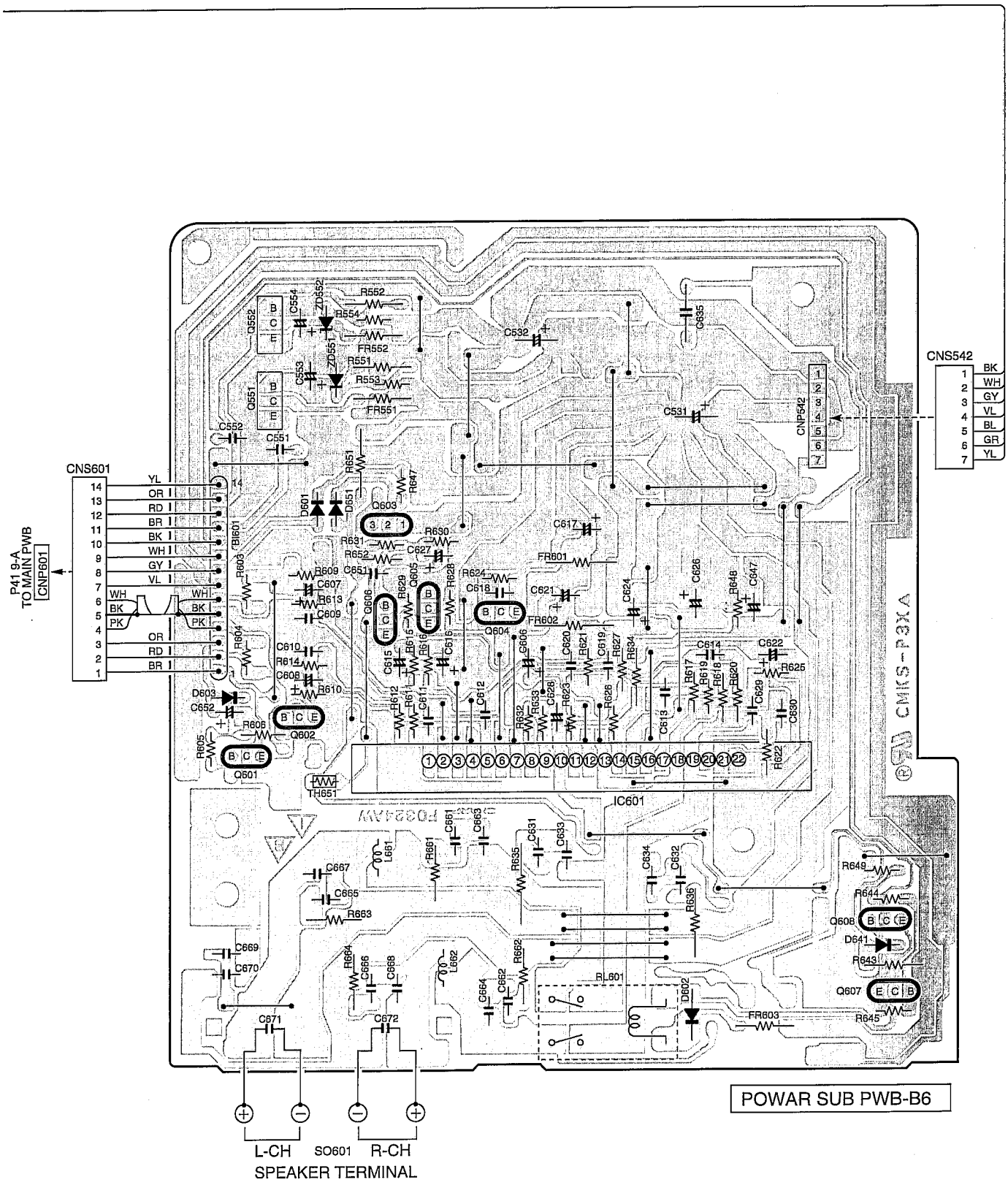


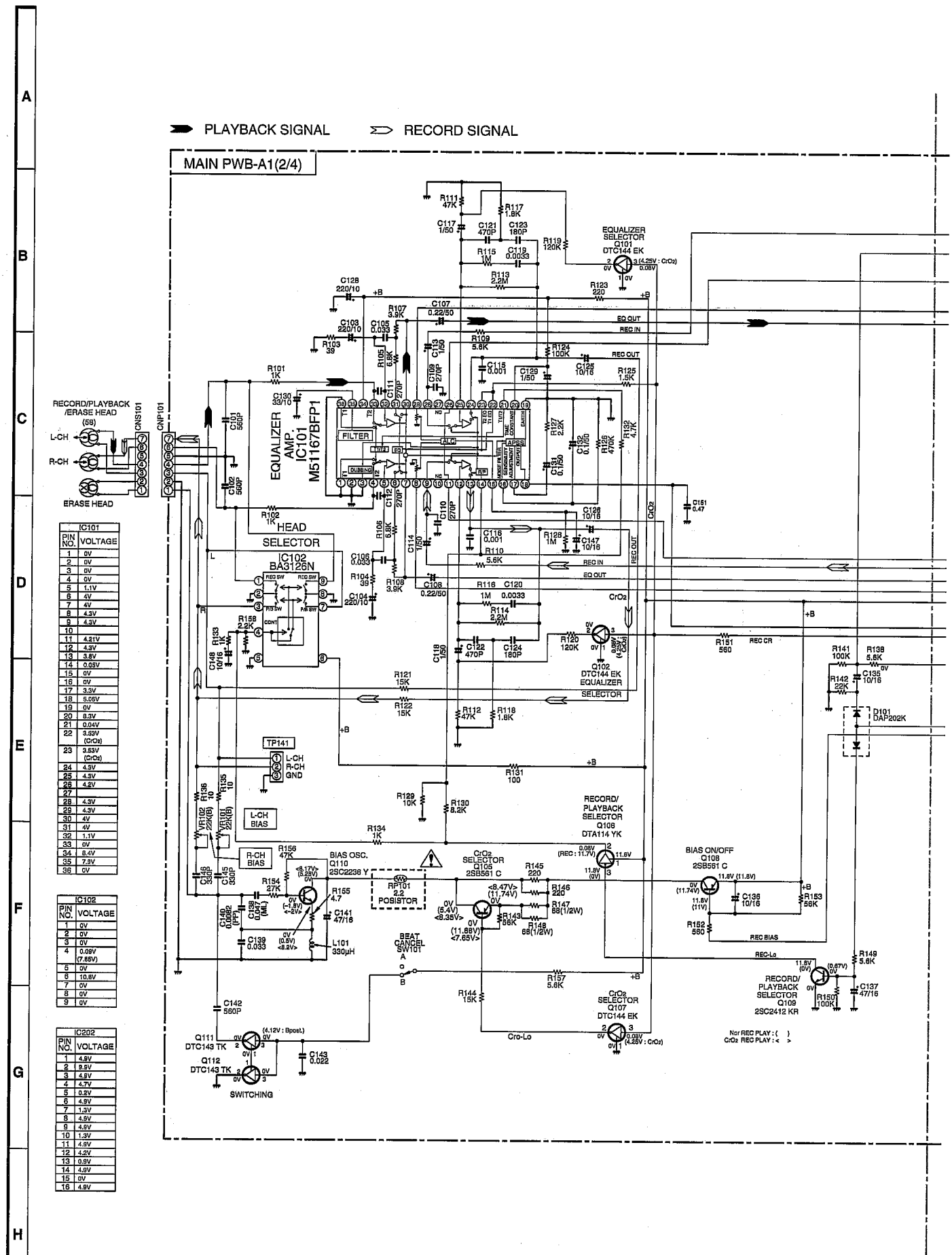
Figure 56 WIRING SIDE OF P.W. BOARD (9/13)



COLOR	BR	RD(R)	OR	YL	GR	BL	VL	GY	WH(W)	BK	PK
TABLE	BROWN	RED	ORANGE	YELLOW	GREEN	BLUE	VIOLET	GRAY	WHITE	BLACK	PINK

7	8	9	10	11	12

Figure 57 WIRING SIDE OF P.W. BOARD (10/13)



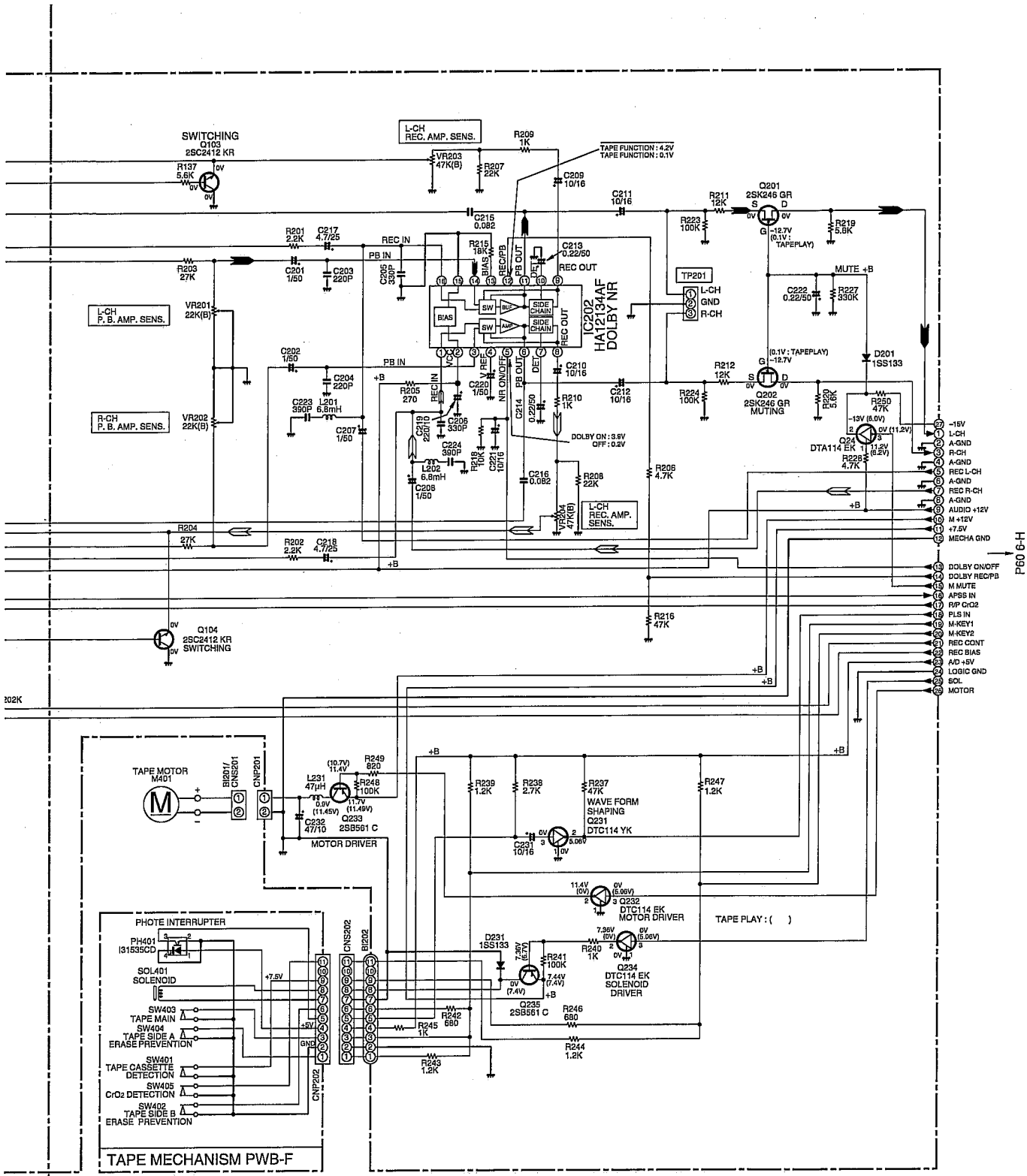
IC101	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0V
4	0V
5	1.1V
6	4V
7	4V
8	4.3V
9	4.3V
10	
11	4.21V
12	4.3V
13	3.8V
14	0.05V
15	0V
16	0V
17	3.3V
18	5.05V
19	0V
20	8.3V
21	0.04V
22	3.33V (CrO2)
23	3.53V (CrO2)
24	4.3V
25	4.3V
26	4.2V
27	
28	4.3V
29	4.3V
30	4V
31	4V
32	1.1V
33	0V
34	8.4V
35	7.9V
36	0V

IC102	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0V
4	0.09V (7.85V)
5	0V
6	10.8V
7	0V
8	0V
9	0V

IC202	
PIN NO.	VOLTAGE
1	4.9V
2	9.9V
3	4.9V
4	4.7V
5	0.2V
6	4.9V
7	1.3V
8	4.9V
9	4.9V
10	1.3V
11	4.9V
12	4.2V
13	0.9V
14	4.9V
15	0V
16	4.9V

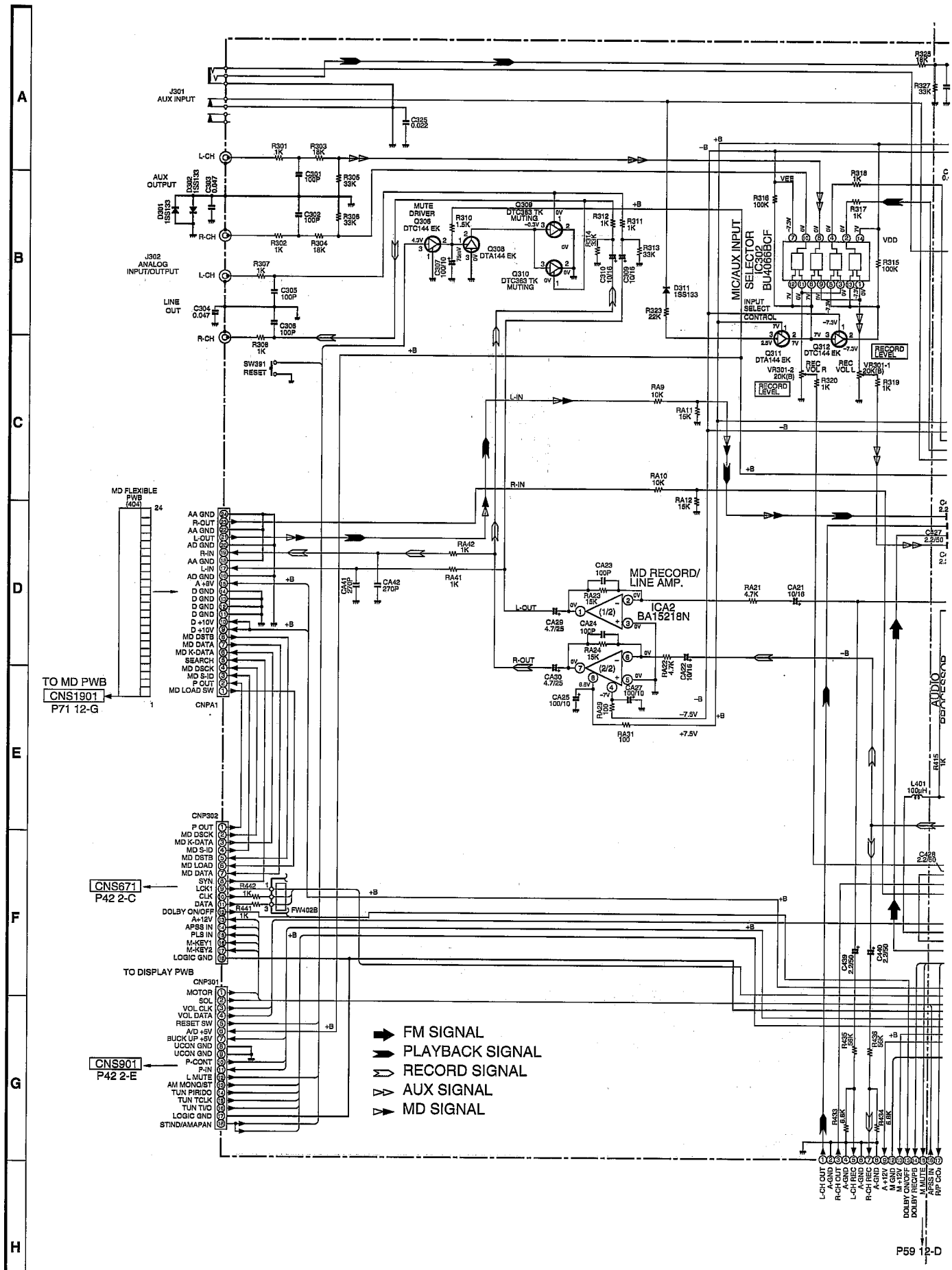
NOTES ON SCHEMATIC DIAGRAM can be found on page 30.

Figure 58 SCHEMATIC DIAGRAM (11/24)



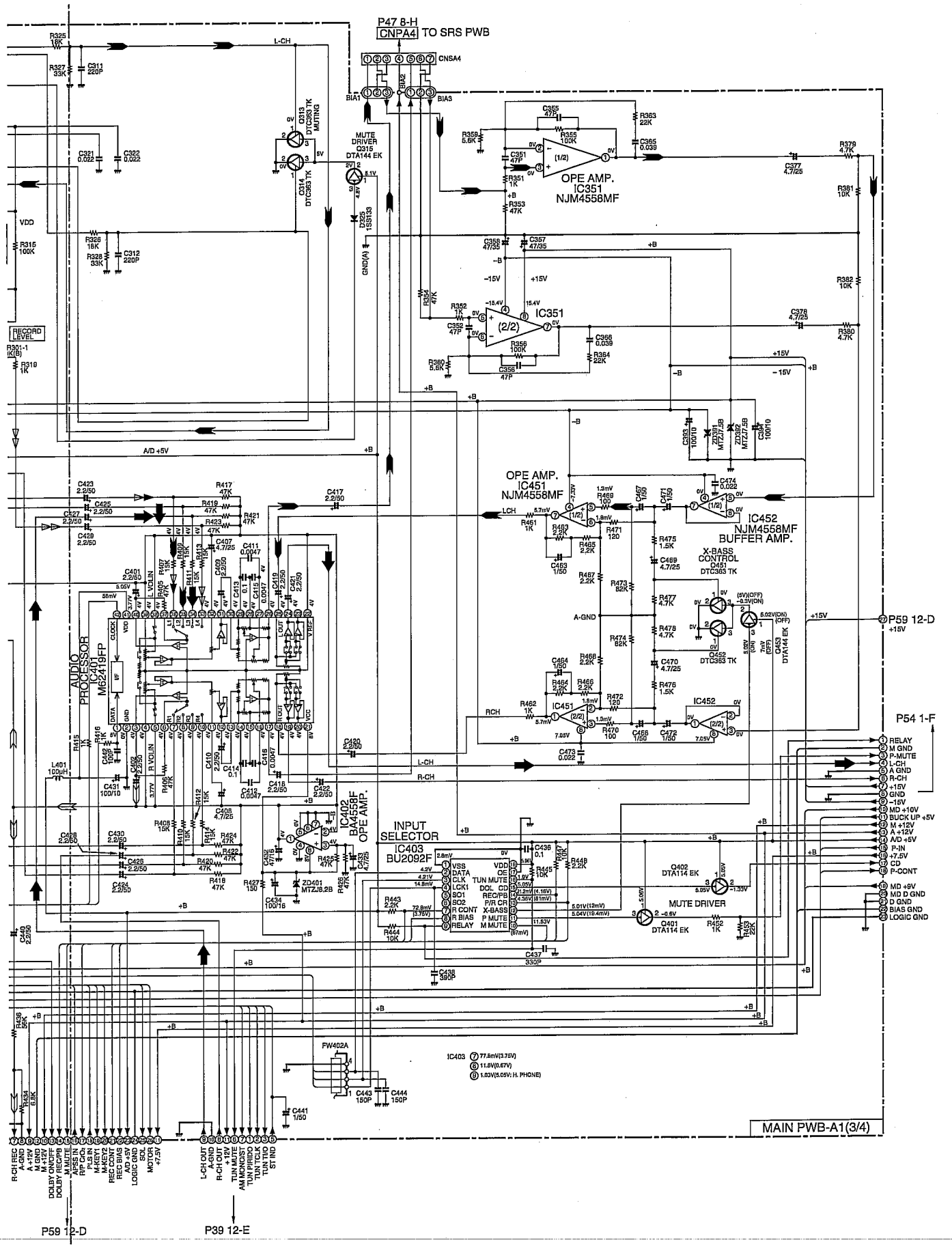
7	8	9	10	11	12

Figure 59 SCHEMATIC DIAGRAM (12/24)



NOTES ON SCHEMATIC DIAGRAM can be found on page 30.

Figure 60 SCHEMATIC DIAGRAM (13/24)



7	8	9	10	11	12

Figure 61 SCHEMATIC DIAGRAM (14/24)

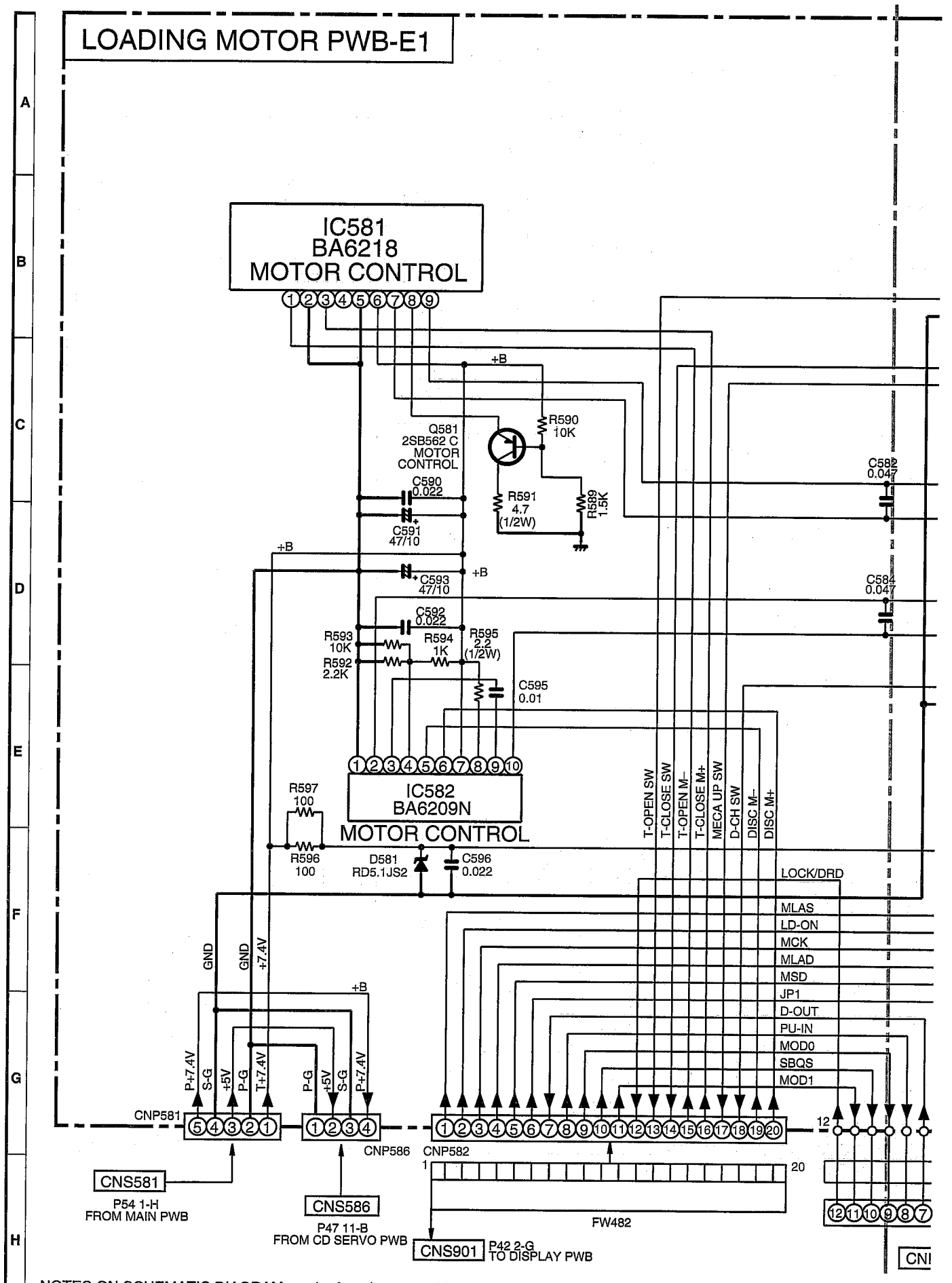
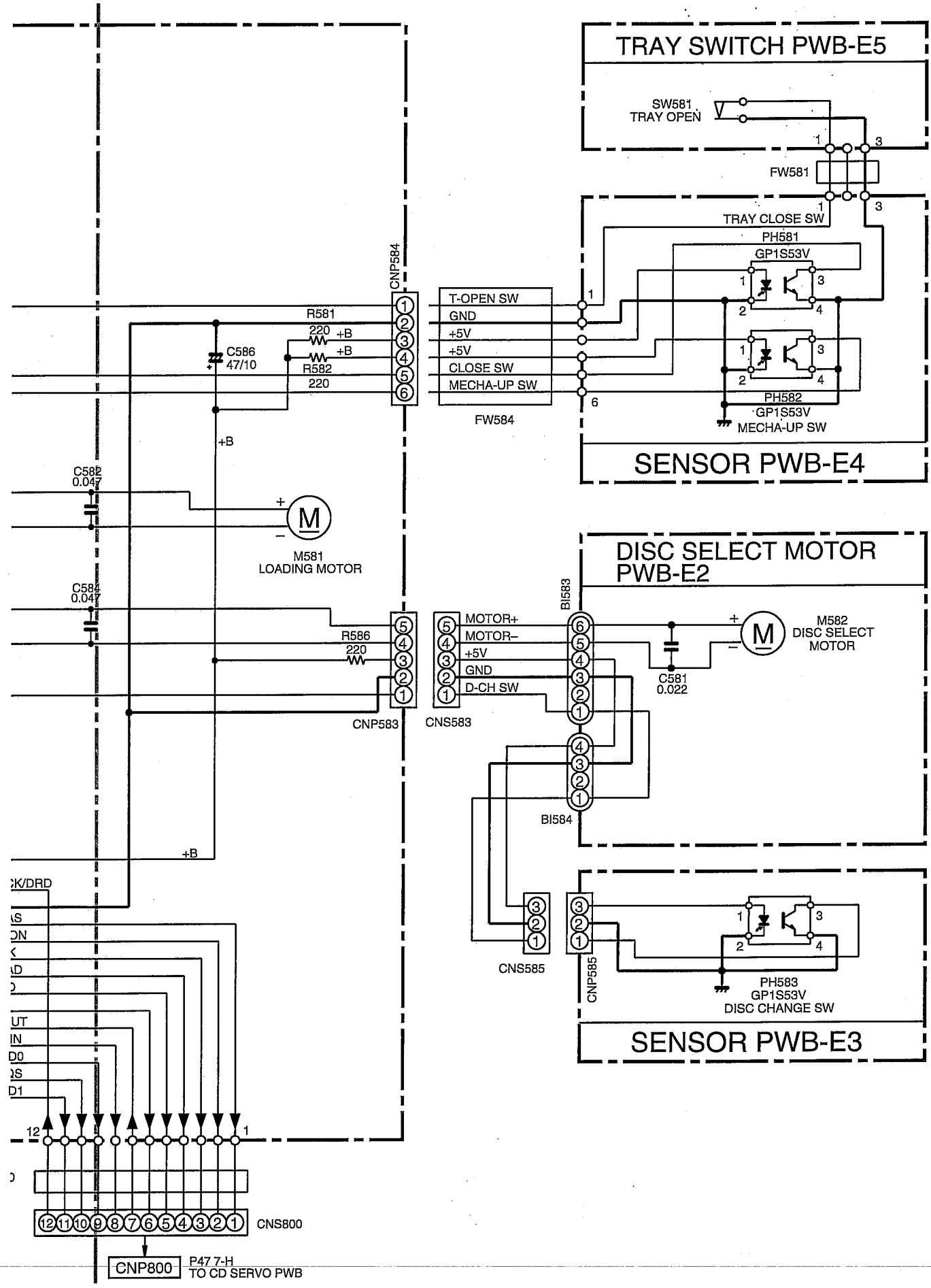


Figure 62 SCHEMATIC DIAGRAM (15/24)



7	8	9	10	11	12

Figure 63 SCHEMATIC DIAGRAM (16/24)

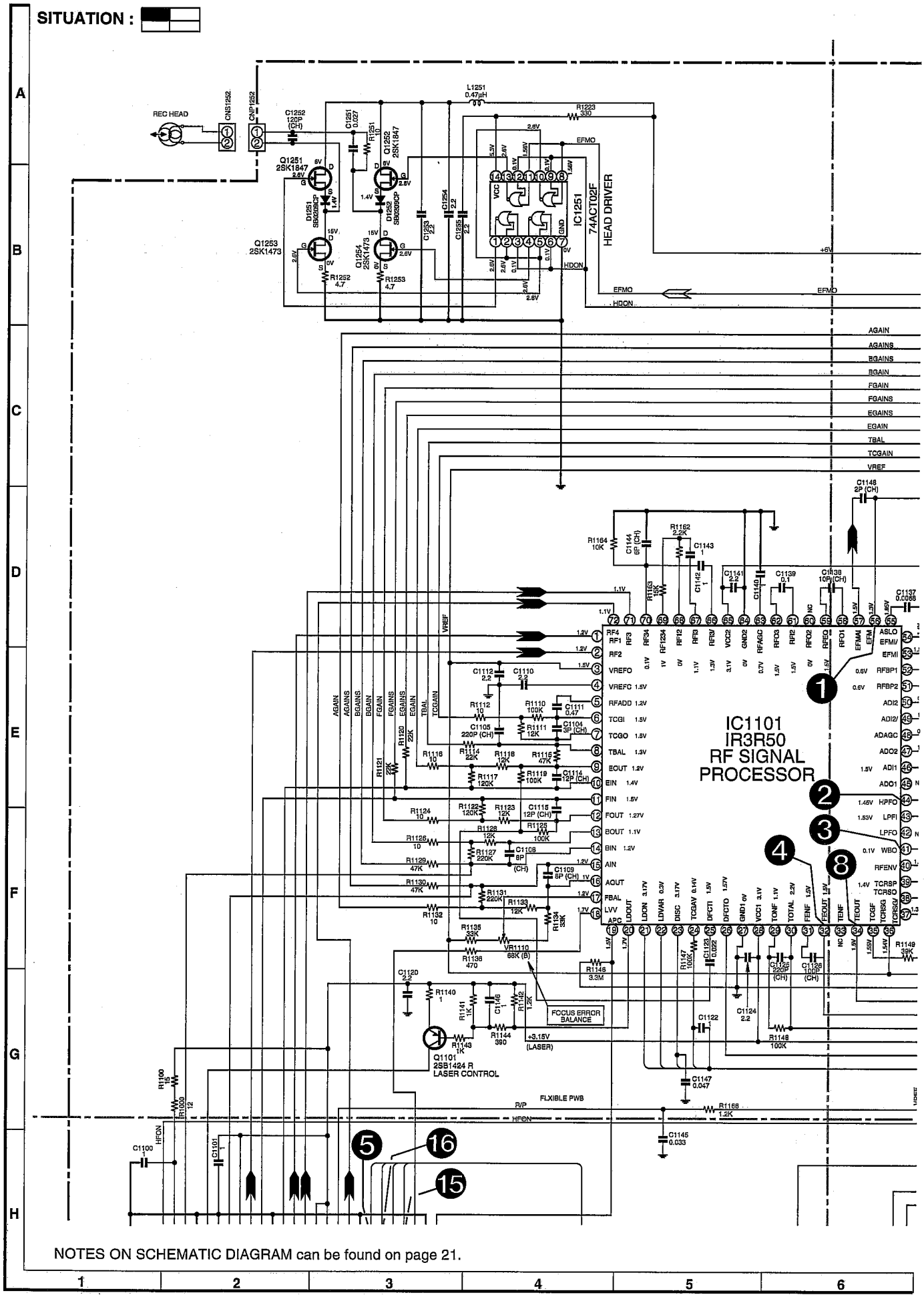
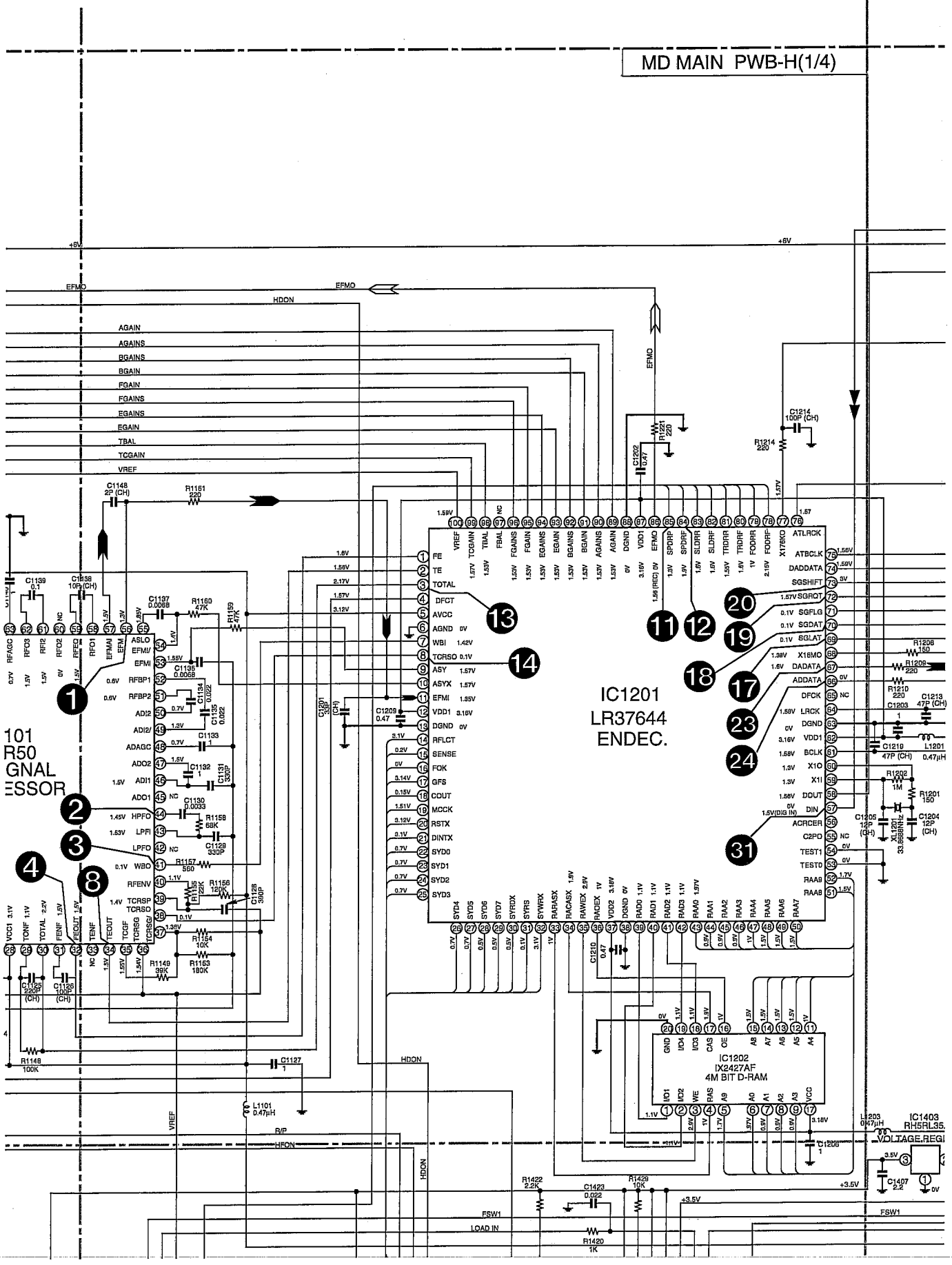


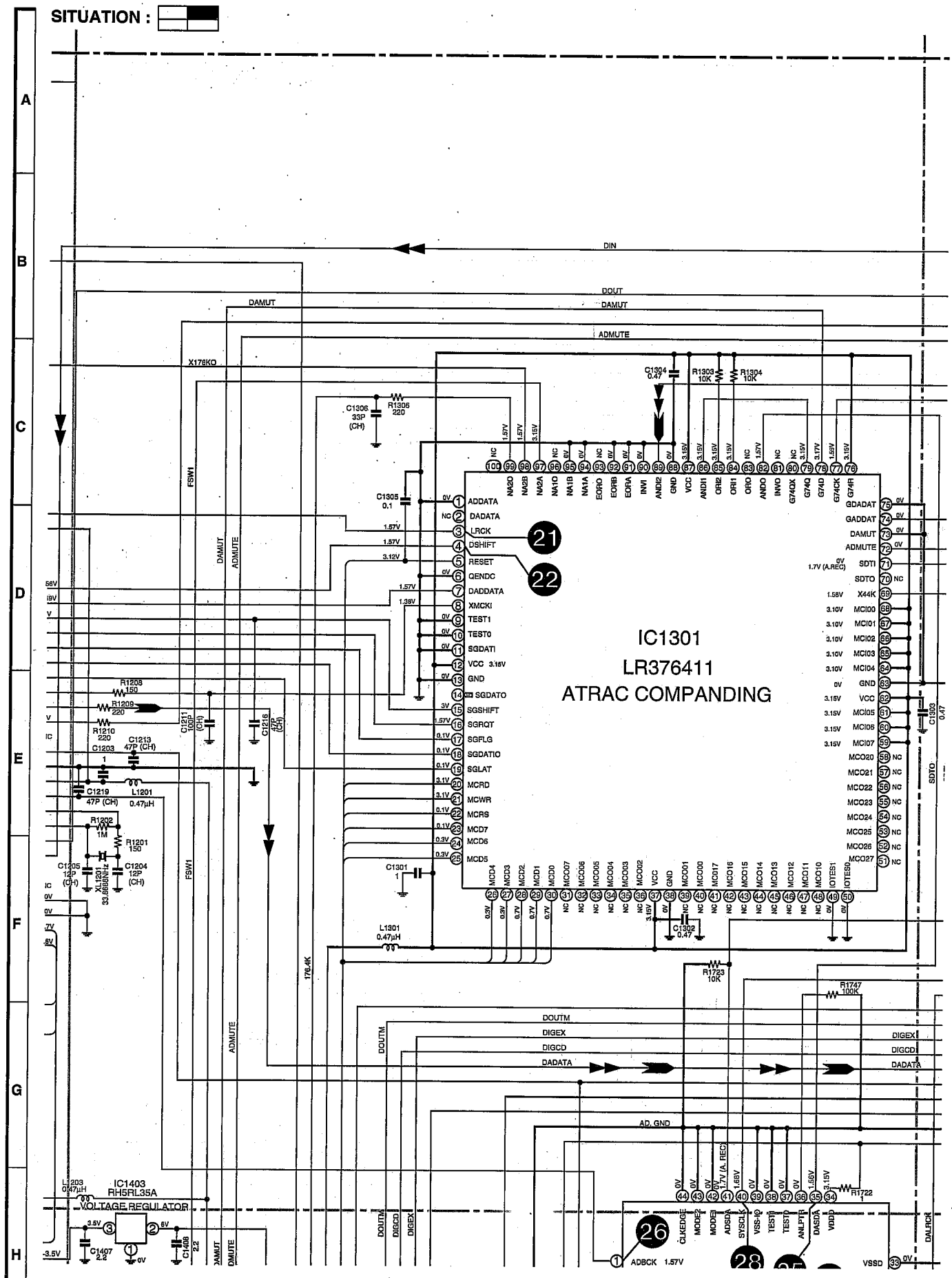
Figure 64 SCHEMATIC DIAGRAM (17/24)



The numbers ❶ to ㉜ are waveform numbers shown in page 75, 76.

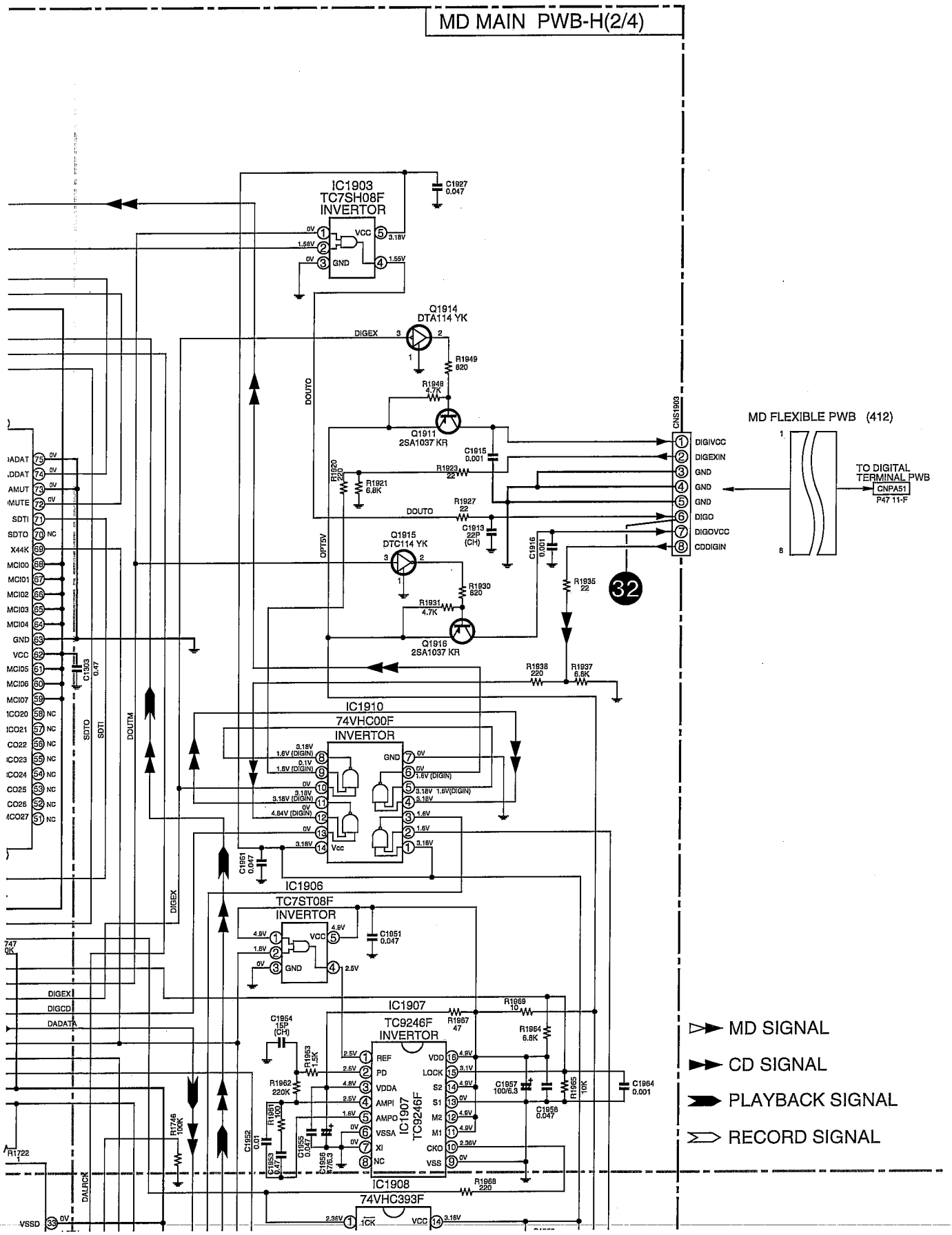
7	8	9	10	11	12

Figure 65 SCHEMATIC DIAGRAM (18/24)



NOTES ON SCHEMATIC DIAGRAM can be found on page 30.

Figure 66 SCHEMATIC DIAGRAM (19/24)



The numbers ❶ to ㉜ are waveform numbers shown in page 75, 76.

7	8	9	10	11	12

Figure 67 SCHEMATIC DIAGRAM (20/24)

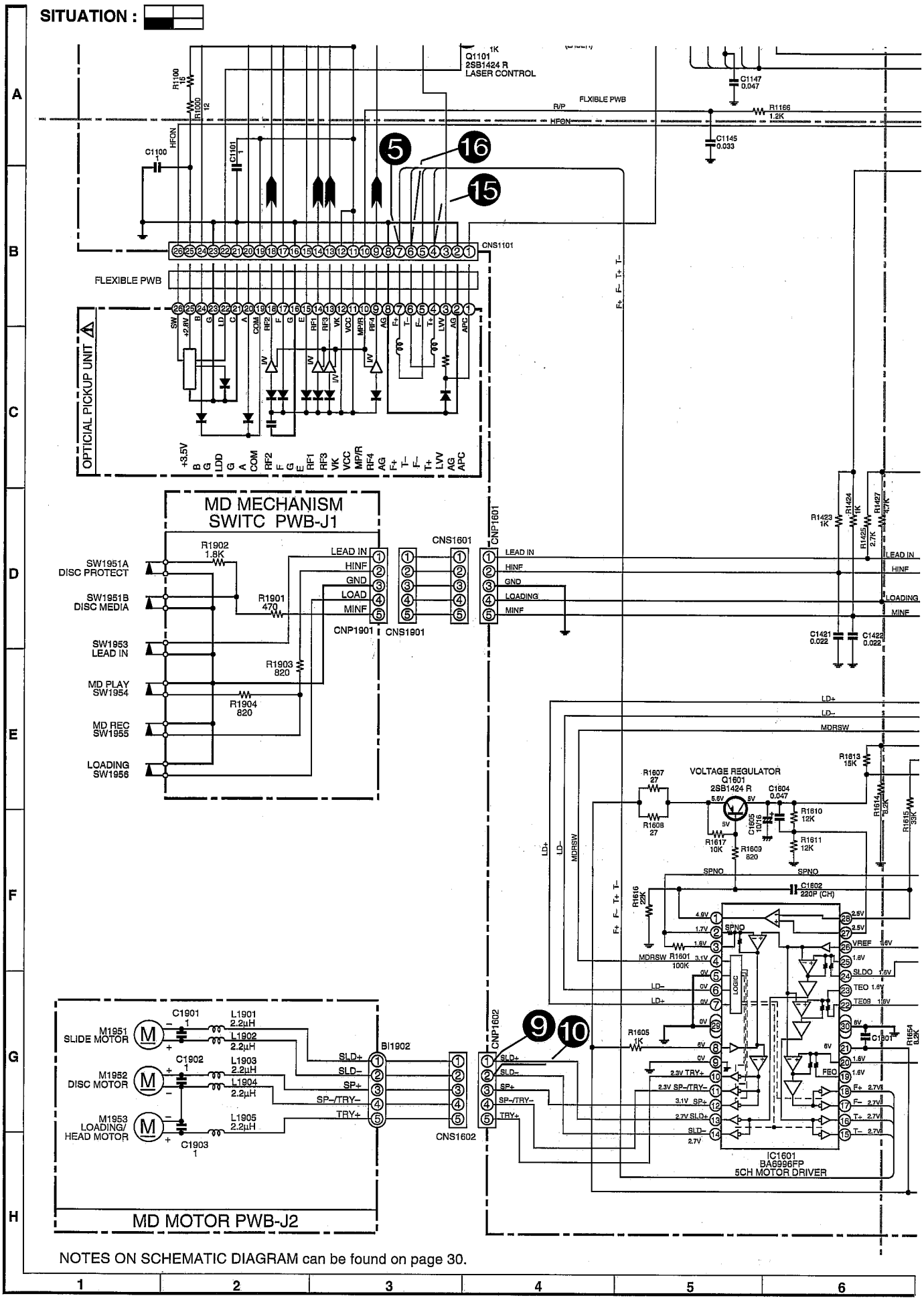
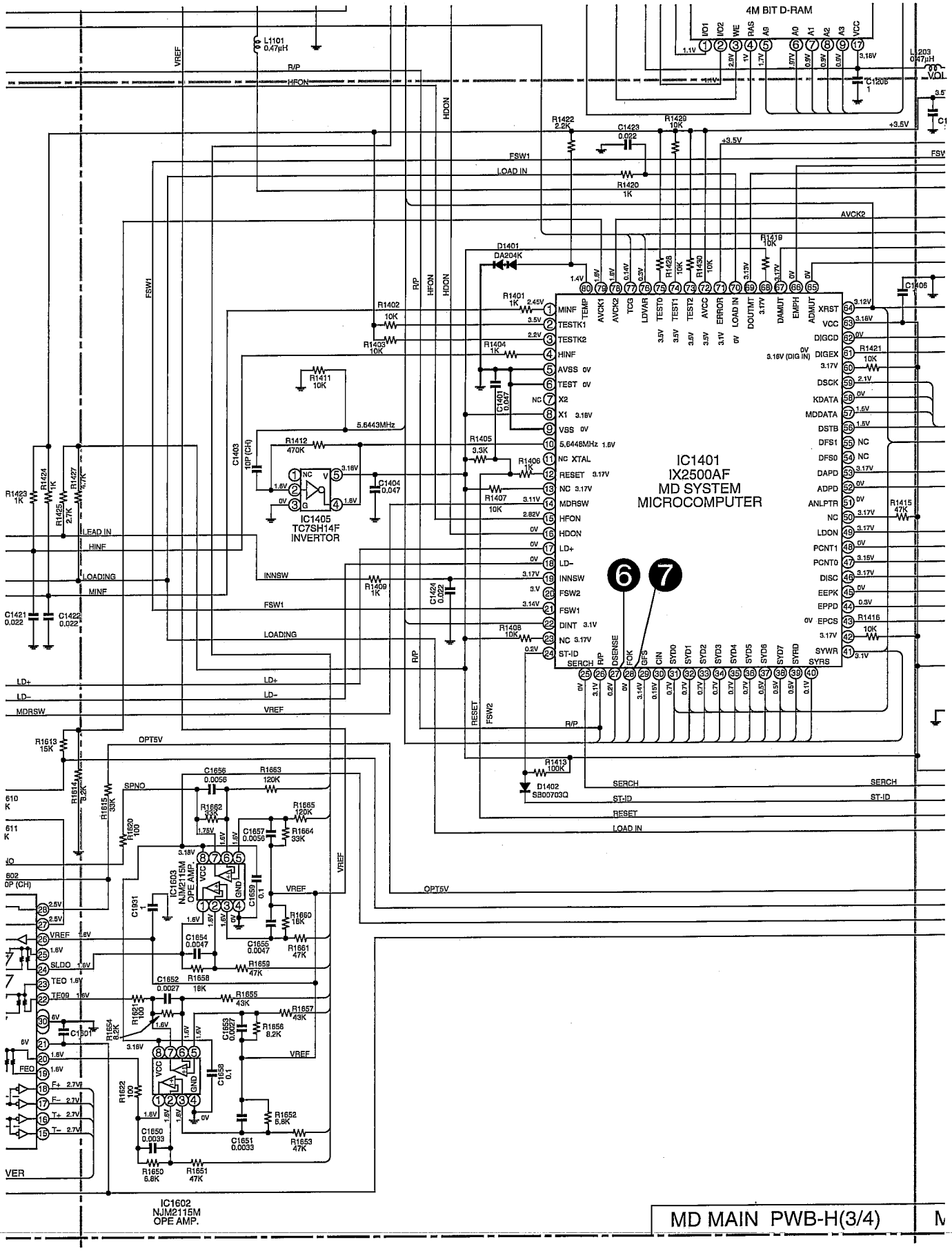


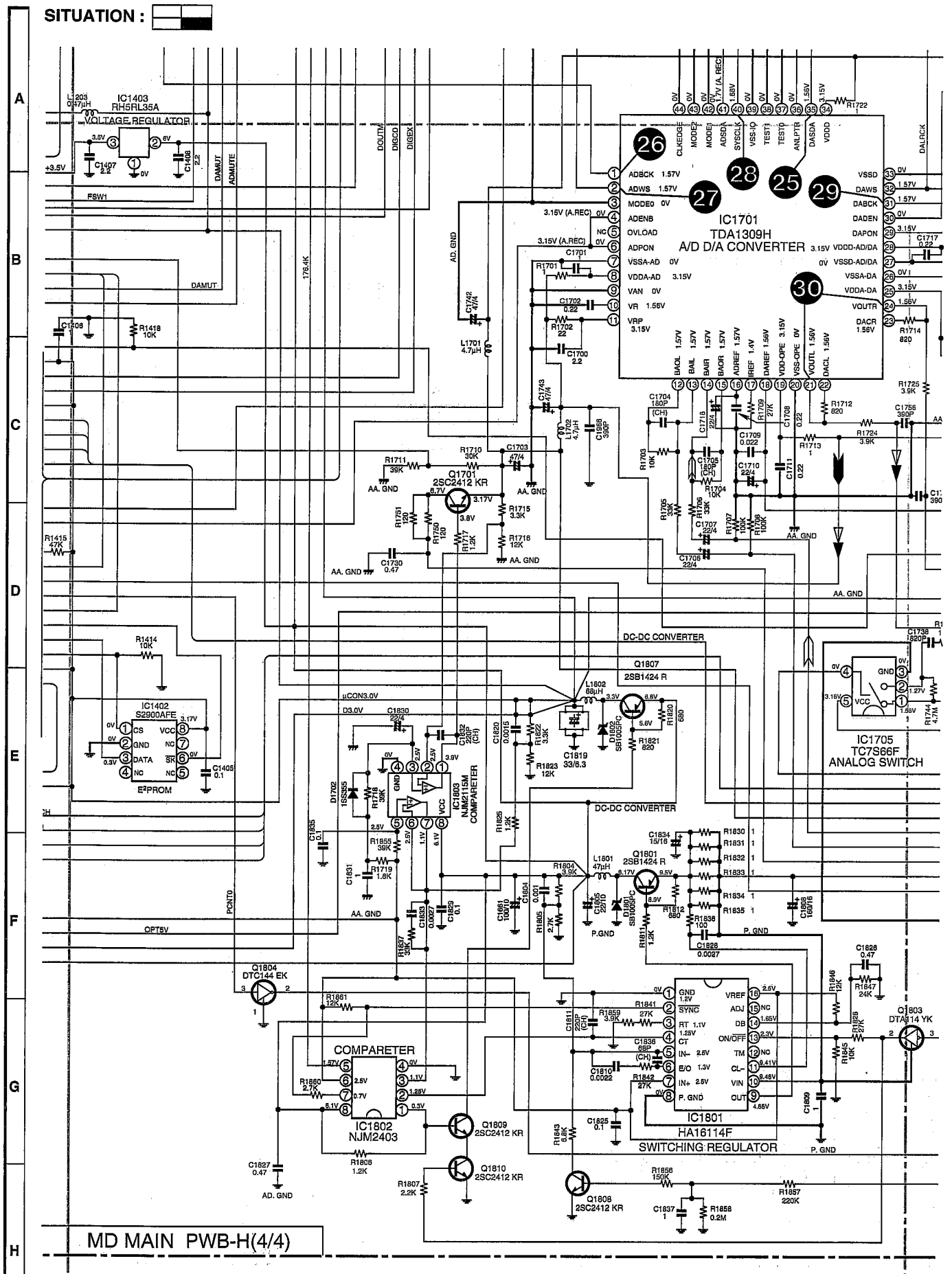
Figure 68 SCHEMATIC DIAGRAM (21/24)



The numbers ❶ to ❷❷ are waveform numbers shown in page 75, 76.

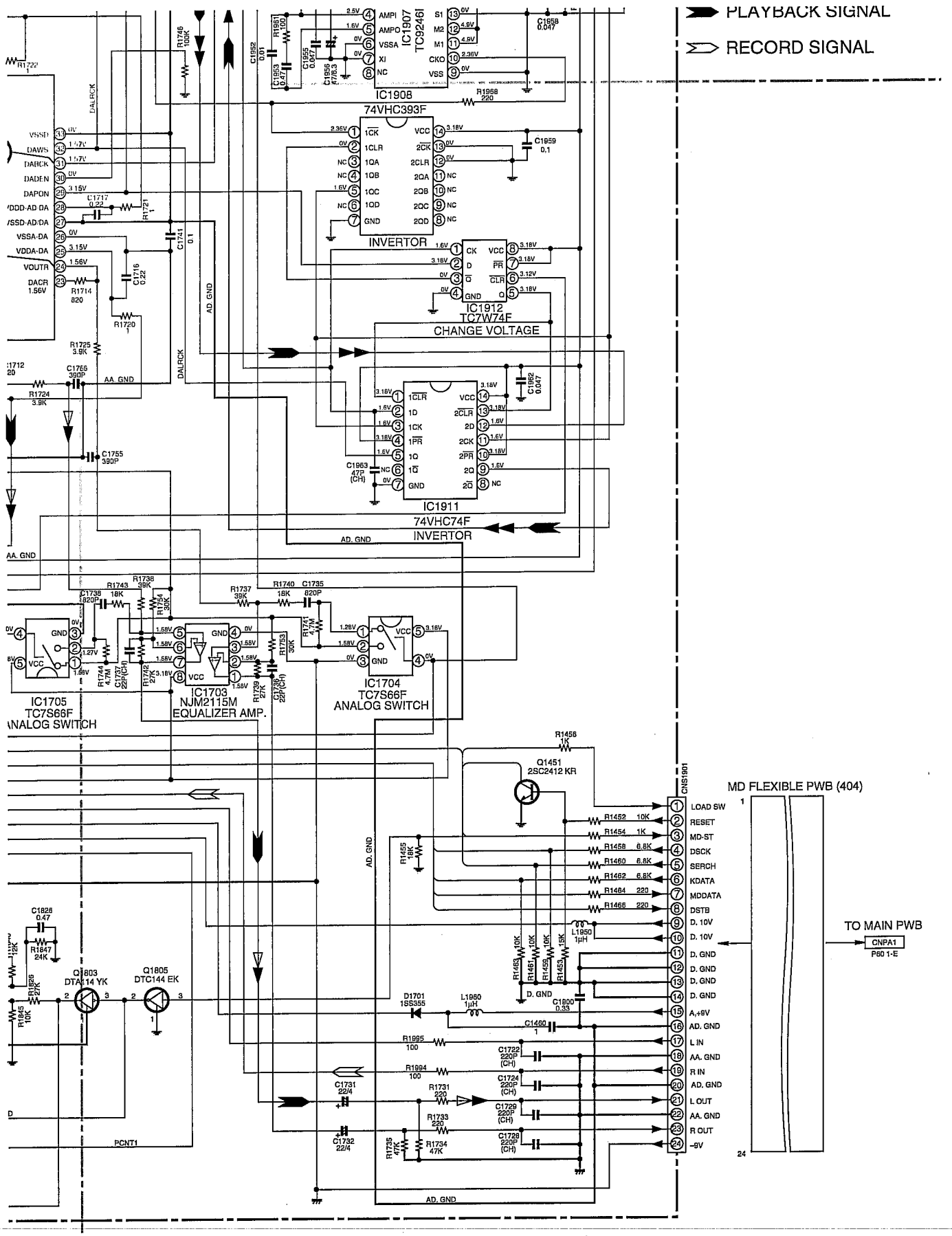
7	8	9	10	11	12

Figure 69 SCHEMATIC DIAGRAM (22/24)



NOTES ON SCHEMATIC DIAGRAM can be found on page 30.

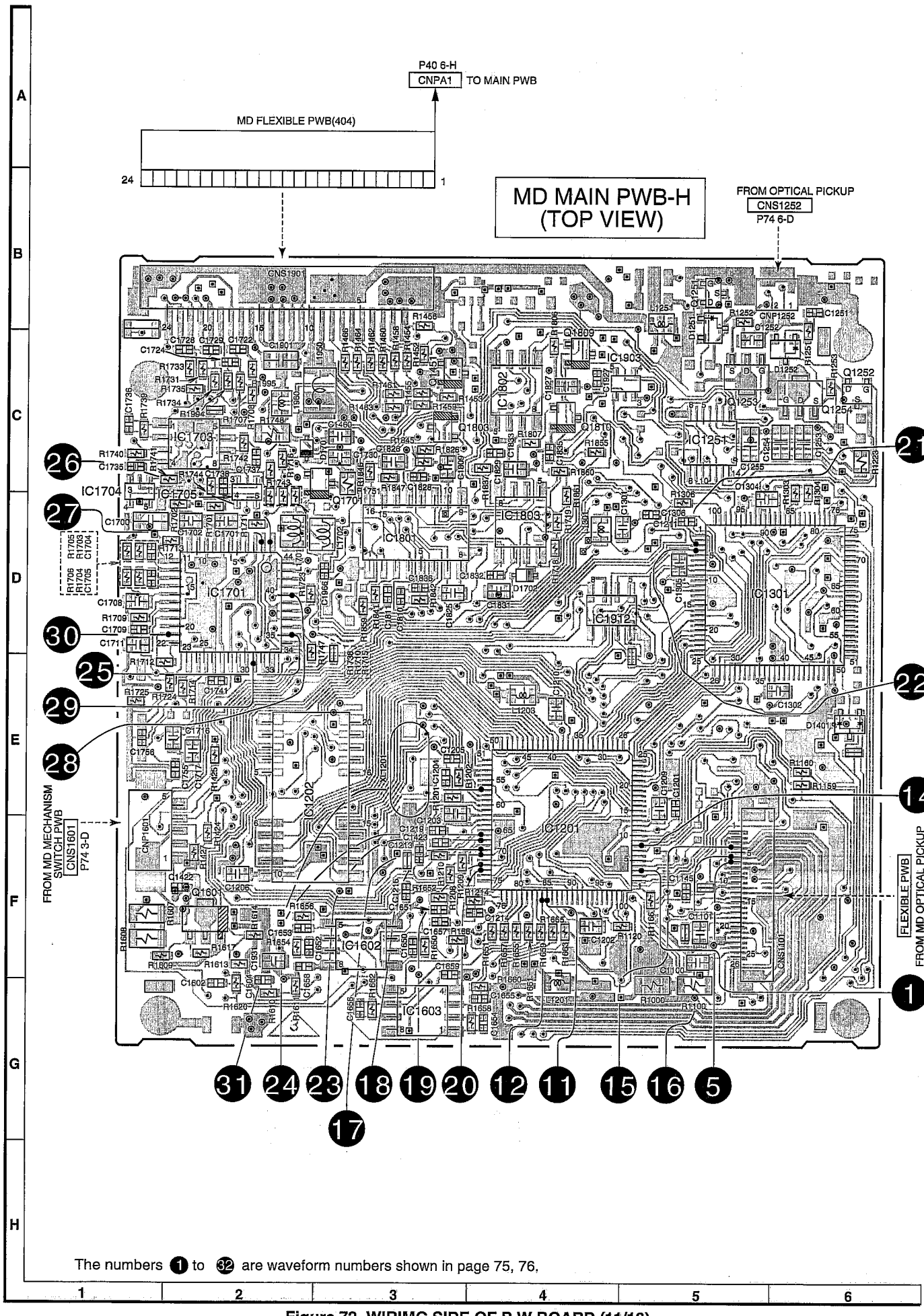
Figure 70 SCHEMATIC DIAGRAM (23/24)



The numbers ❶ to ❸❷ are waveform numbers shown in page 75, 76.

7	8	9	10	11	12

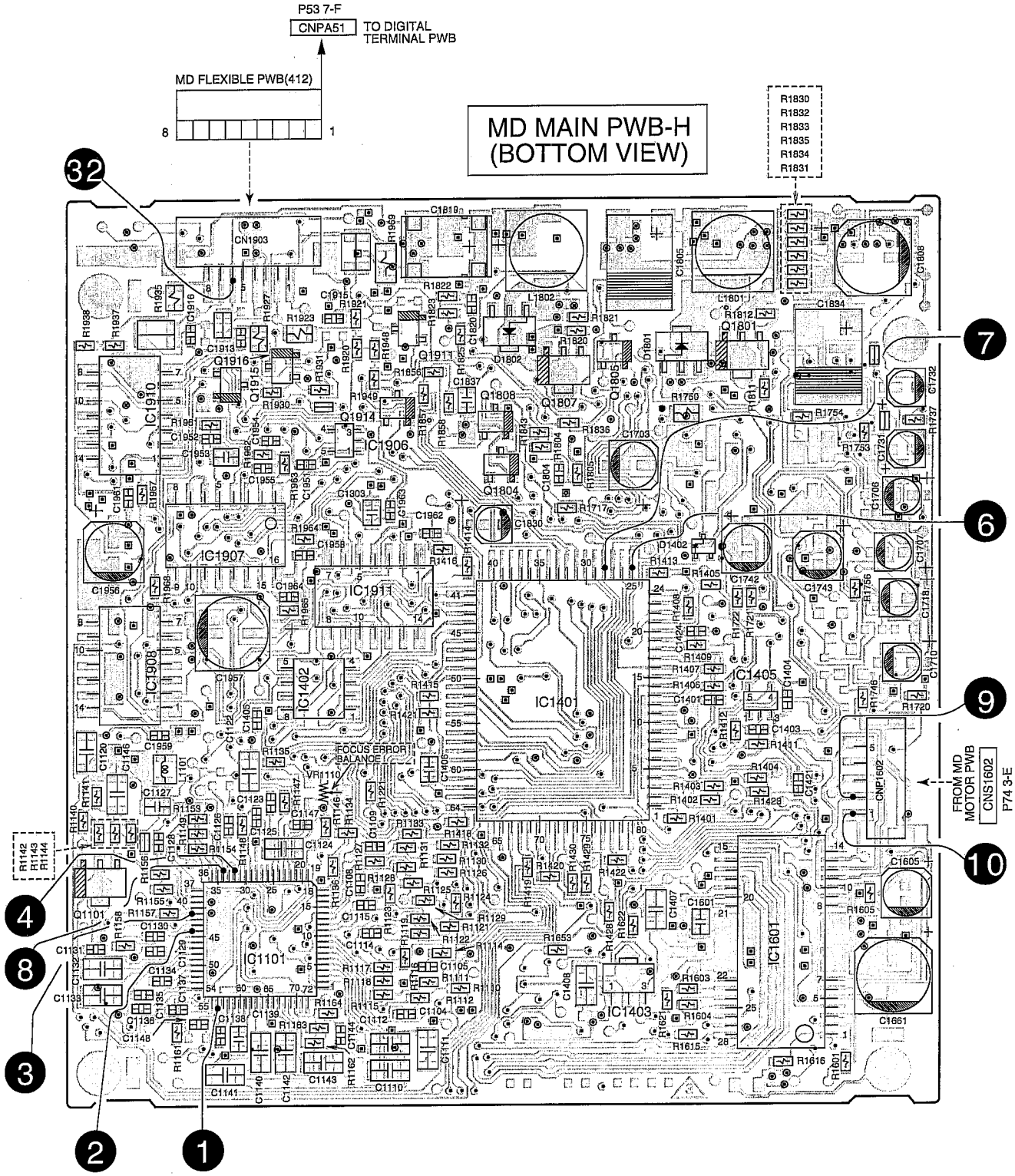
Figure 71 SCHEMATIC DIAGRAM (24/24)



The numbers ❶ to ❸❷ are waveform numbers shown in page 75, 76.

Figure 72 WIRIMG SIDE OF P.W.BOARD (11/13)

◉ :Through-hole where the top, bottom and +B patterns are connected.
▣ :Through-hole where the top, bottom and ground patterns are connected.
• :Through-hole where the top and bottom patterns are connected.



7	8	9	10	11	12

Figure 73 WIRIMG SIDE OF P.W.BOARD (12/13)

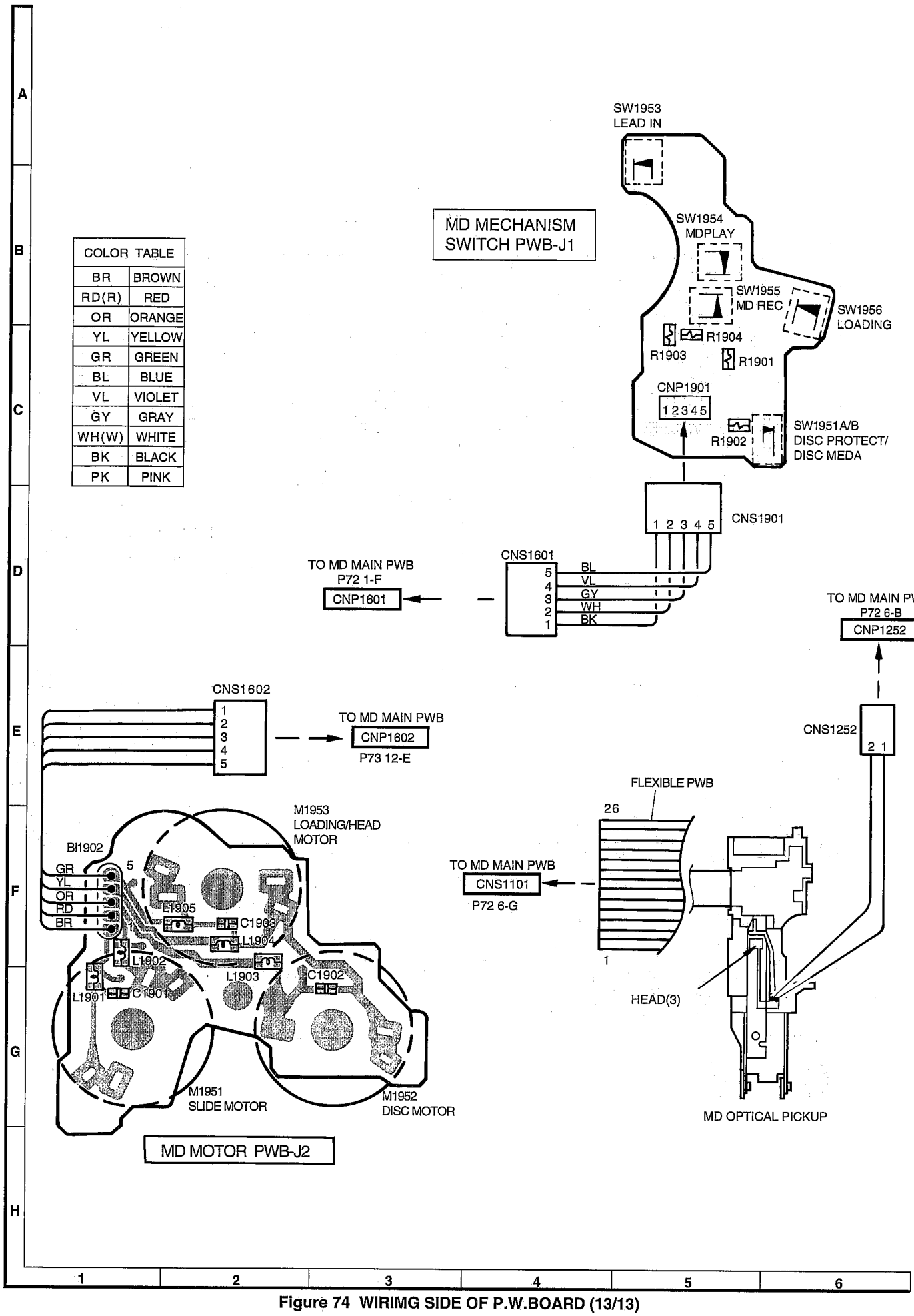
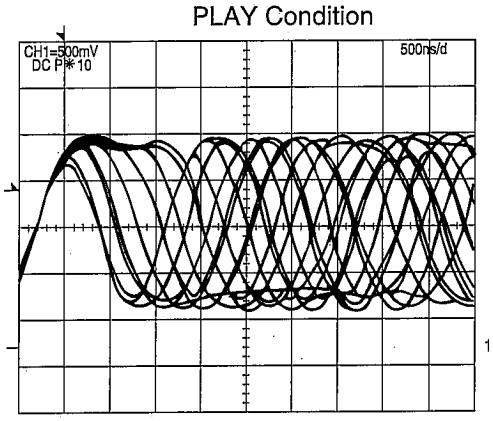


Figure 74 WIRIMG SIDE OF P.W.BOARD (13/13)

WAVEFORMS OF MD CIRCUIT

PLAY Condition

❶ TP1112 (EFM)

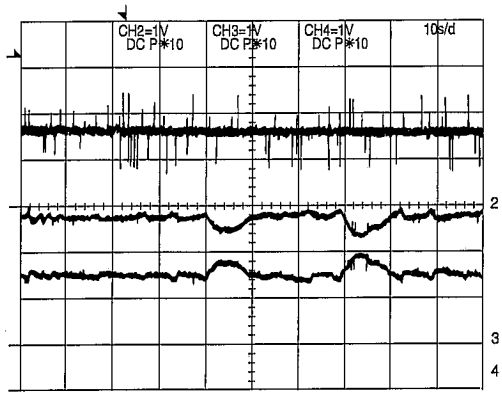


Groove (PLAY MODE)

❽ TP1137 (TEOUT)

❾ TP1606 (SLD +)

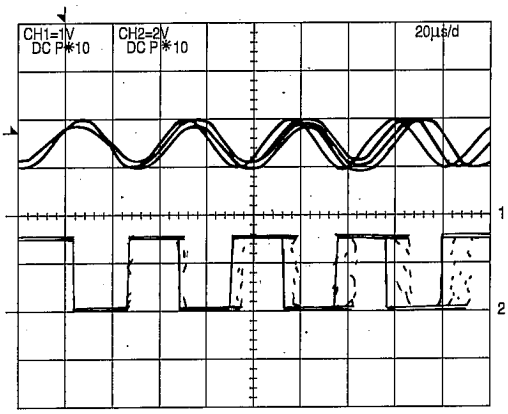
❿ TP1607 (SLD -)



PLAY Condition (MODISC)

❷ (HPFO)

❸ (WBO)



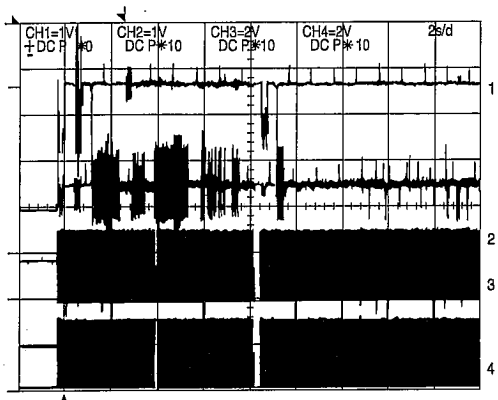
POWER OFF ⟶STAND-BY ⟶P LAY

❹ TP1136 (TEOUT)

❽ TP1137 (TEOUT)

⓫ SPDRP

⓬ SPDRF



POWER ON

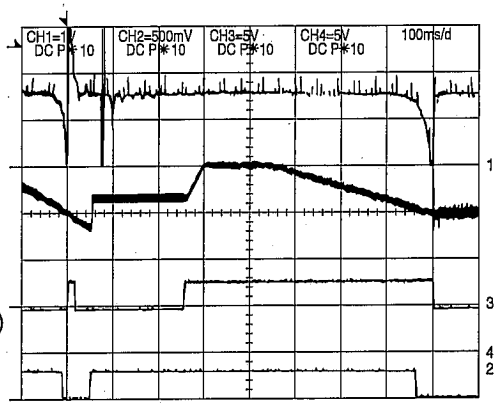
STAND-BY ⟶ PLAY

❹ TP1136 (FEOUT)

❺ TP1107 (F+)

❻ TP1404 (DSENSE)

❼ TP1405 (FOK)



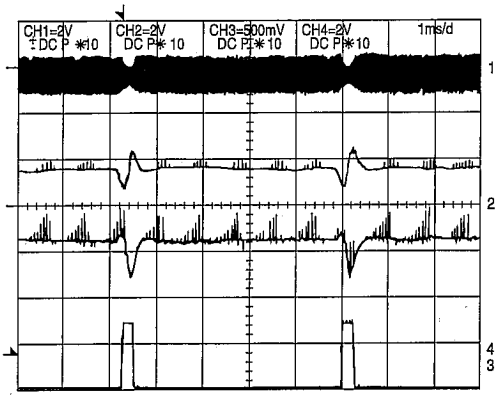
PIT (PLAY MODE)

❶ TP1112 (EFM)

❽ TP1137 (TEOUT)

⓭ TOTAL

⓮ TCRSO



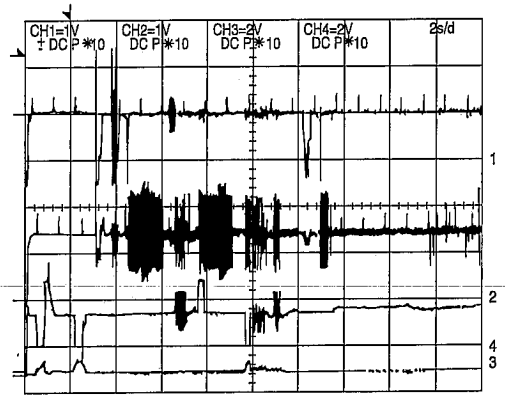
POWER OFF ⟶STAND -BY

❹ TP1136 (FEOUT)

❽ TP1137 (TEOUT)

❾ TP1606 (SLD +)

❿ TP1607 (SLD -)



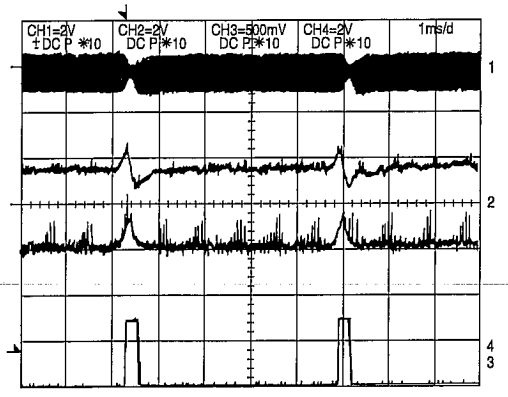
Groove (PLAY MODE)

❶ TP1112 (EFM)

❽ TP1137 (TEOUT)

⓭ TOTAL

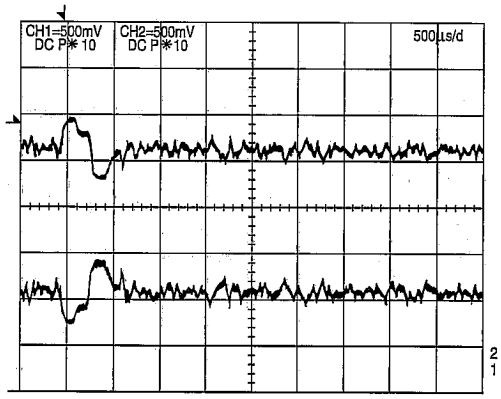
⓮ TCRSO



Groove (PLAY MODE)

15 TP1104 (T+)

16 TP1106 (T-)

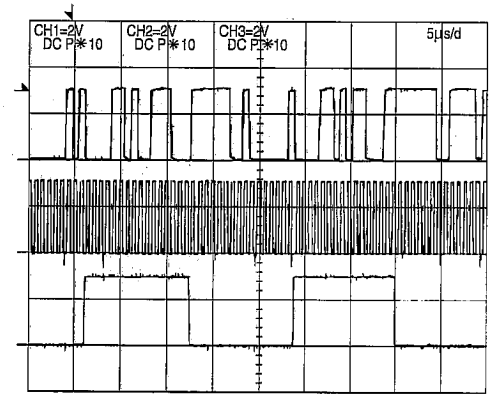


DA/AD Convertor Input (PLAY MODE)

25 DASDA

26 ADBCK

27 ADWS



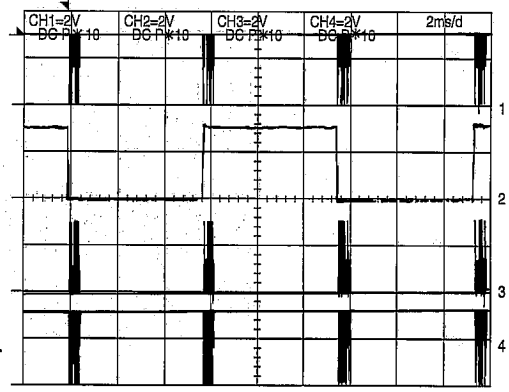
ENDEC –ATRAC DATA TRANSMISSON (PLAY MODE)

17 SGLAT

18 SGDAT

19 SGRQT

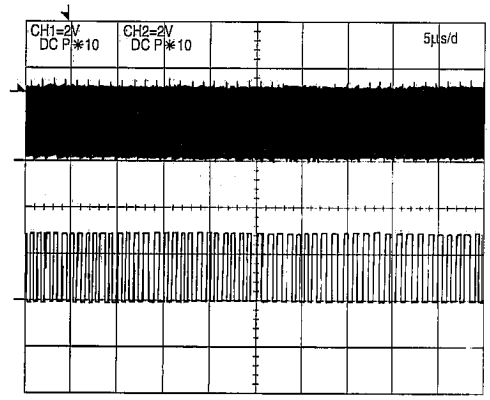
20 SGSHIFT



DA/AD Convertor Input (PLAY MODE)

28 SYSCLK

29 DABCK

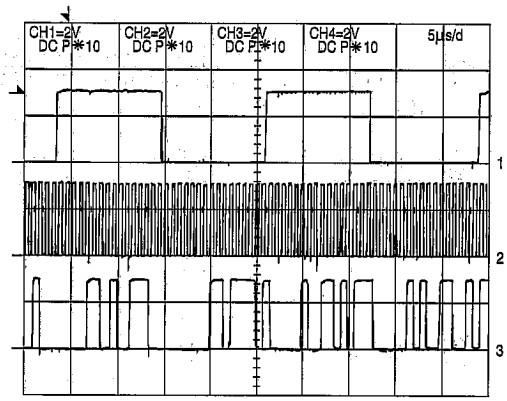


D/A CONVERTOR (PLAY MODE)

21 LRCK

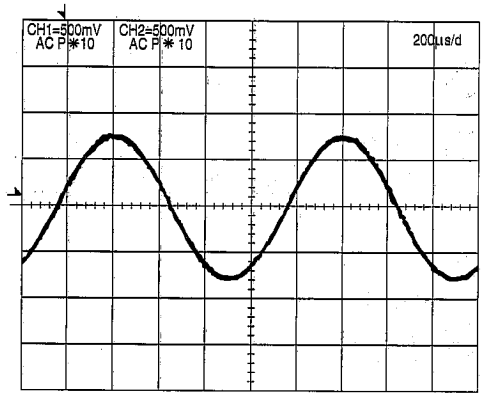
22 DSHIFT

23 DADATA



TEST DISC (1KHz 0dB) PLAY MODE

30 VOUTL VOUTR

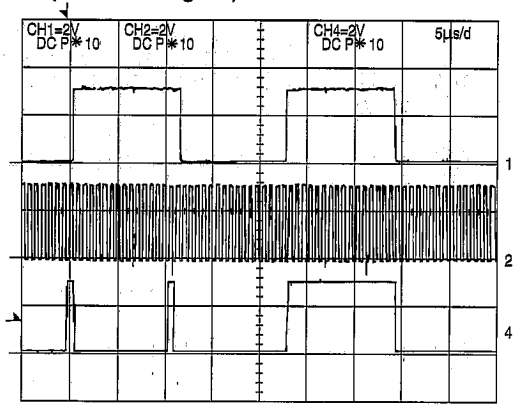


A/D CONVERTOR ANALOG RECA MODE (AUX input is no signal)

21 LRCK

22 DSHIFT

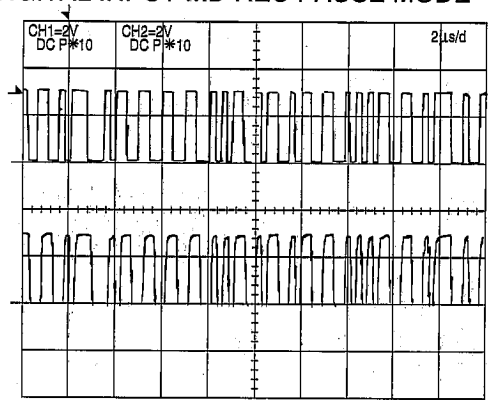
24 ADDATA



DIGITAL IN/OUT
OPTICAL DIGITAL 1KHz 0dB INPUT
AUX DIGITAL INPUT MD REC PAUSE MODE

31 DIN

32 TP1504 (DIGO)

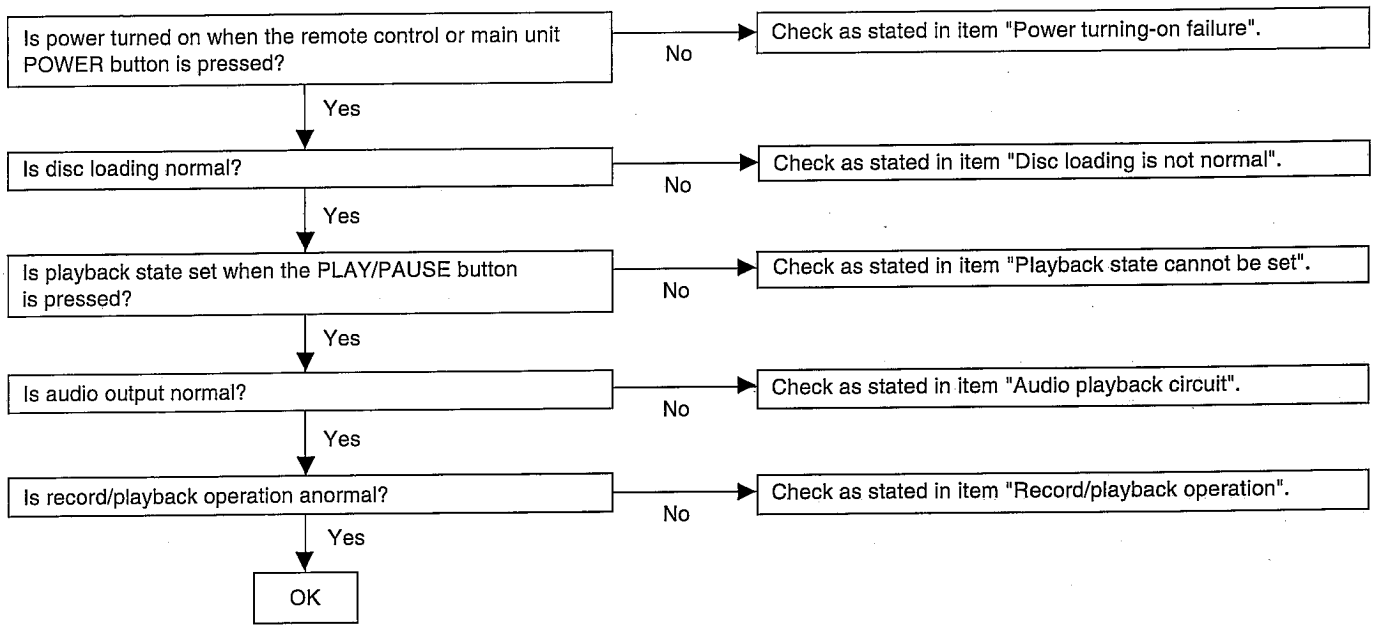


TROUBLE SHOOTING

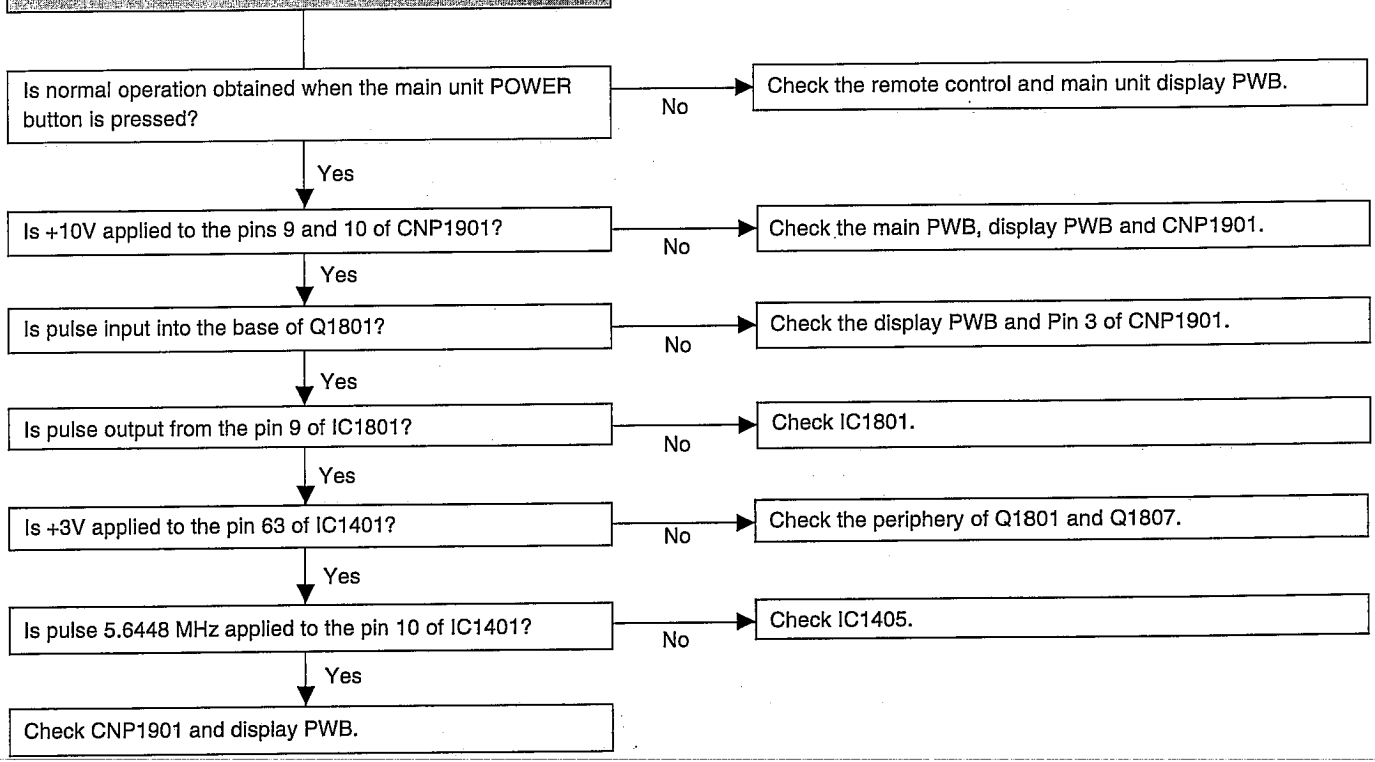
When does not function

When the CD section does not operate When the objective lens of the optical pickup is dirty,this section may not operate.Clean the objective lens,and check the playback operation.When this section does not operate even after the above step is taken,check the following items.
Remove the cabinet and follow the troubleshooting instructions.
"Track skipping and/or no TOC(Table Of Contents) may be caused by build up of dust other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

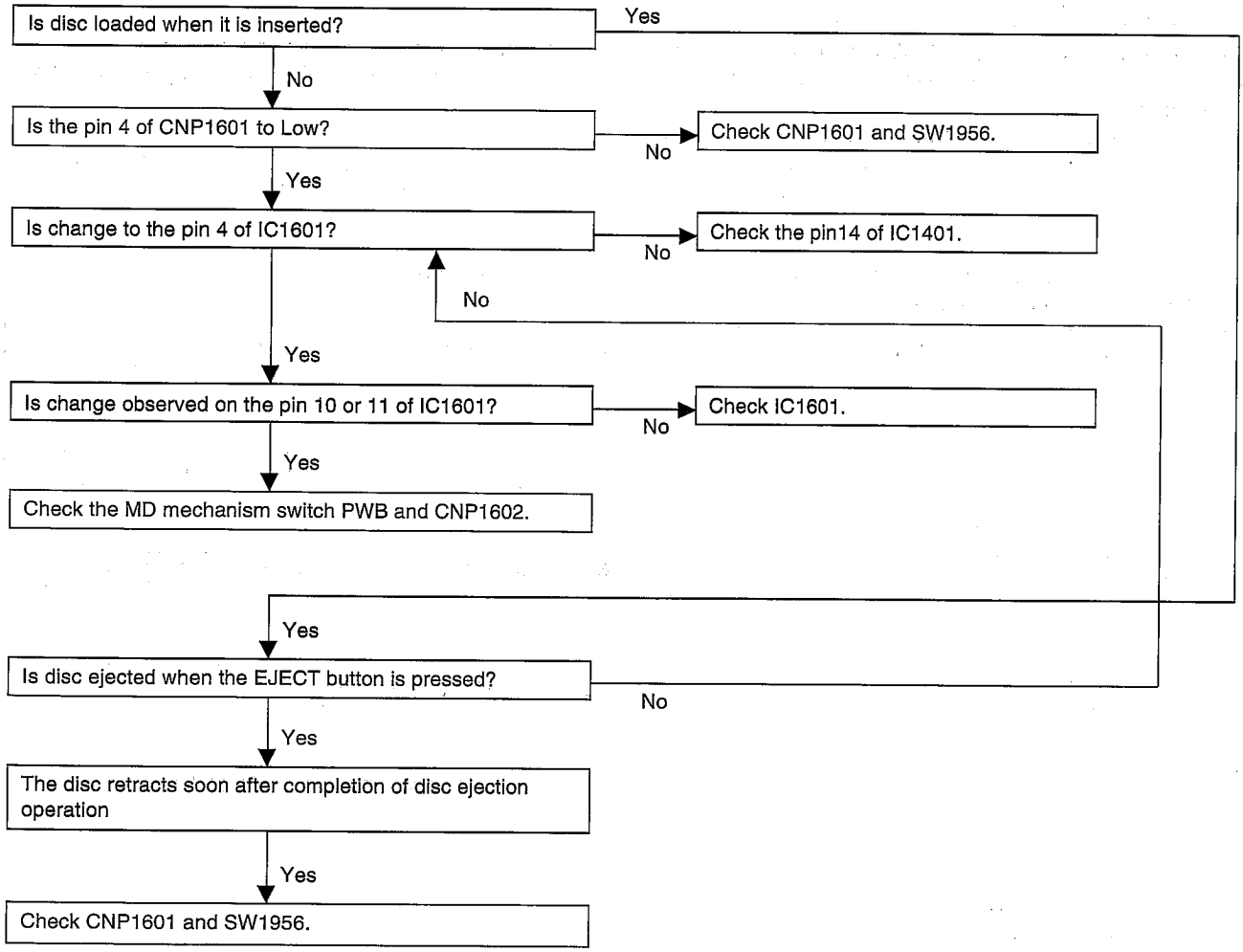
Turn the power off.
Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.
Do not touch the lens with the bare hand.


Is power turned on when the remote control or main unit POWER button is pressed?
No
Check as stated in item "Power turning-on failure".
Yes
Is disc loading normal?
No
Check as stated in item "Disc loading is not normal".
Yes
Is playback state set when the PLAY/PAUSE button is pressed?
No
Check as stated in item "Playback state cannot be set".
Yes
Is audio output normal?
No
Check as stated in item "Audio playback circuit".
Yes
Is record/playback operation anormal?
No
Check as stated in item "Record/playback operation".
Yes
OK

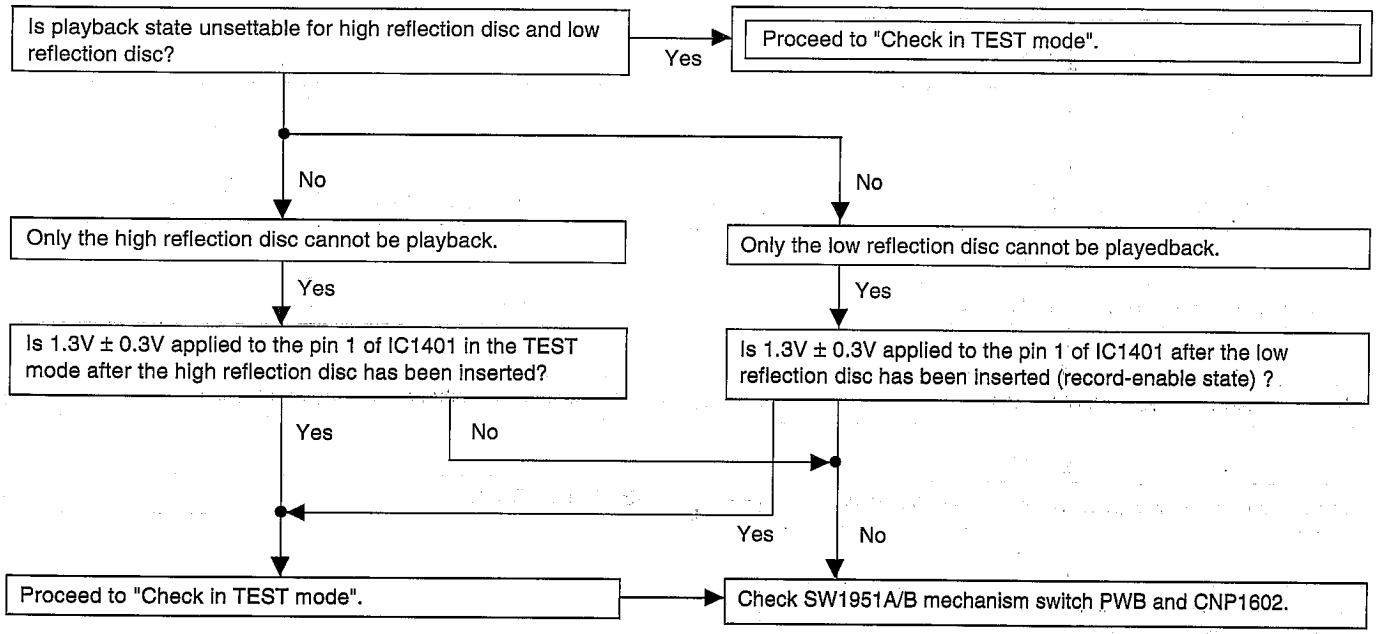
• Power turning-on failure


Is normal operation obtained when the main unit POWER button is pressed?
No
Check the remote control and main unit display PWB.
Yes
Is +10V applied to the pins 9 and 10 of CNP1901?
No
Check the main PWB, display PWB and CNP1901.
Yes
Is pulse input into the base of Q1801?
No
Check the display PWB and Pin 3 of CNP1901.
Yes
Is pulse output from the pin 9 of IC1801?
No
Check IC1801.
Yes
Is +3V applied to the pin 63 of IC1401?
No
Check the periphery of Q1801 and Q1807.
Yes
Is pulse 5.6448 MHz applied to the pin 10 of IC1401?
No
Check IC1405.
Yes
Check CNP1901 and display PWB.

• Disc loading is not normal

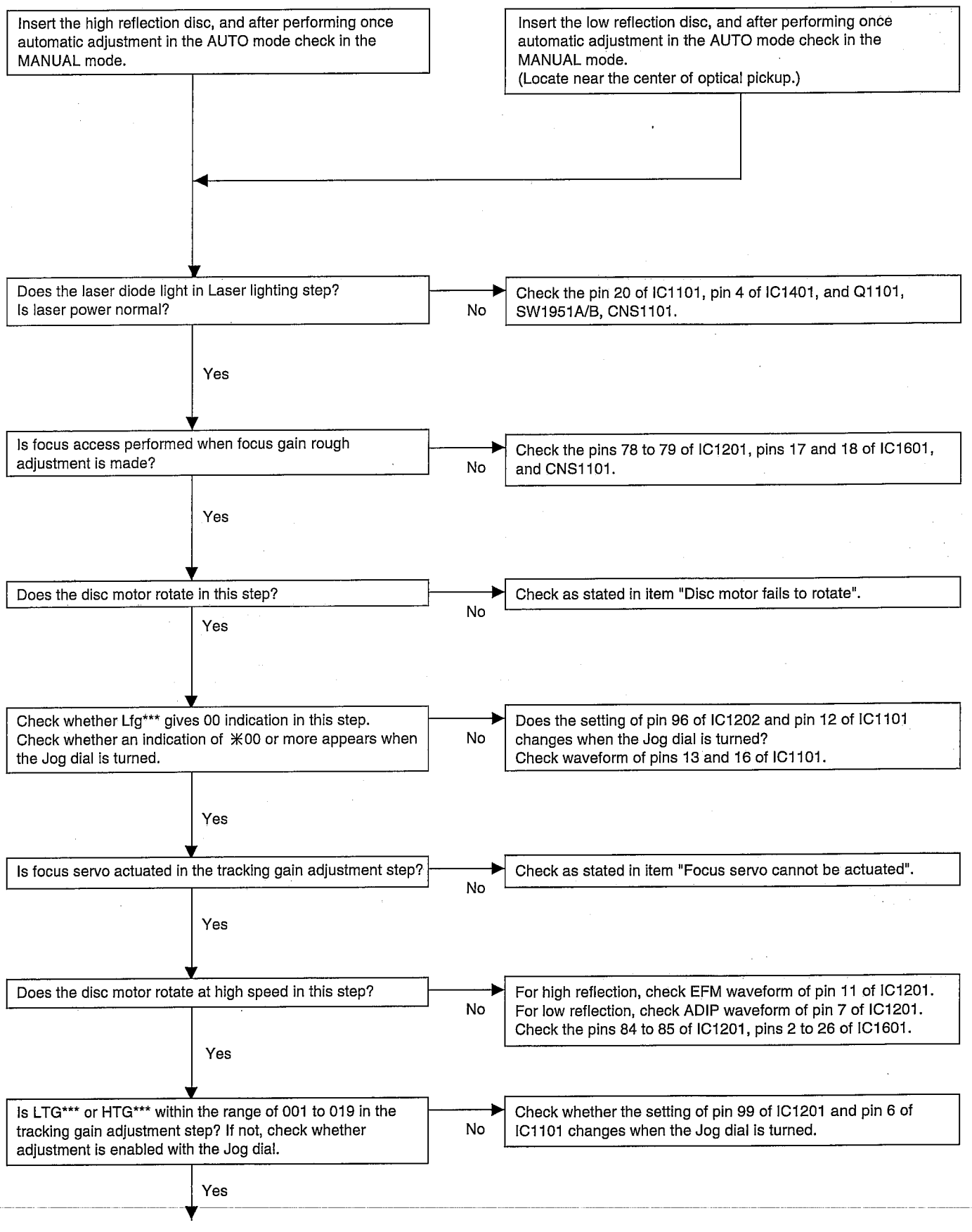


• Playback state cannot be set


Is playback state unsettable for high reflection disc and low reflection disc?
Yes
Proceed to "Check in TEST mode".
No
No
Only the high reflection disc cannot be playback.
Only the low reflection disc cannot be playedback.
Yes
Yes
Is 1.3V ± 0.3V applied to the pin 1 of IC1401 in the TEST mode after the high reflection disc has been inserted?
Is 1.3V ± 0.3V applied to the pin 1 of IC1401 after the low reflection disc has been inserted (record-enable state) ?
Yes
No
Yes
No
Proceed to "Check in TEST mode".
Check SW1951A/B mechanism switch PWB and CNP1602.

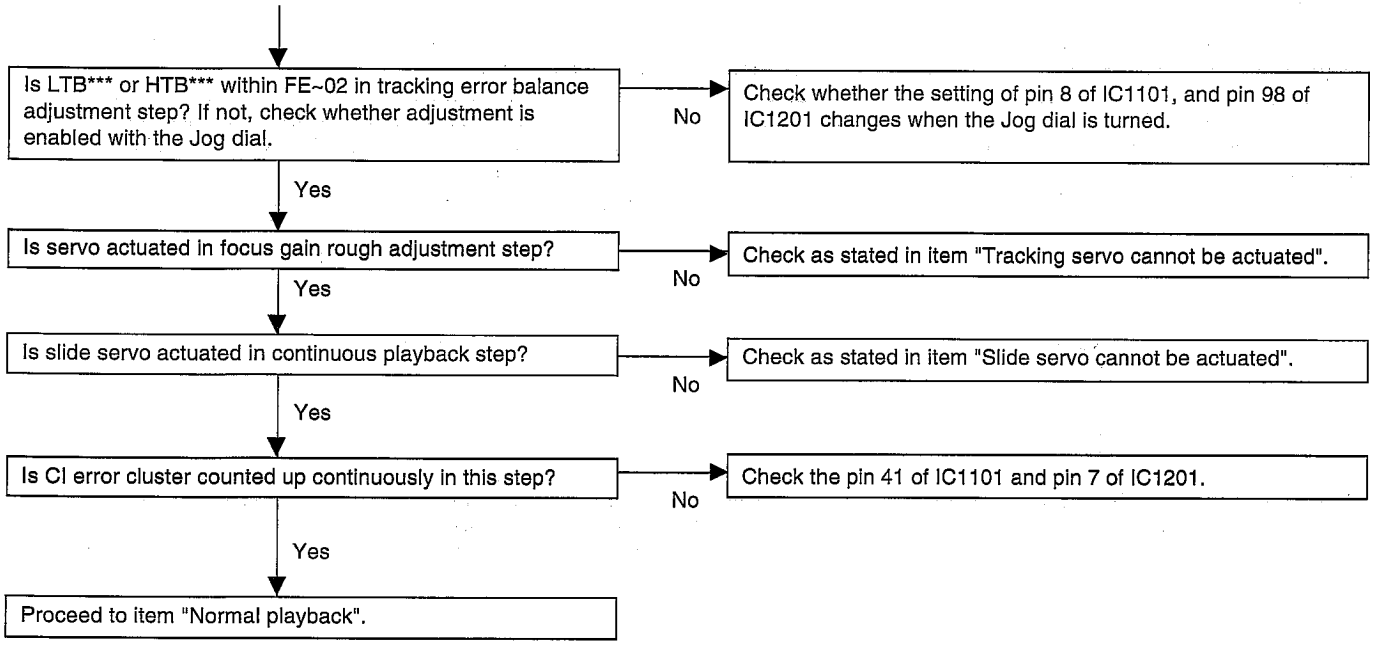
• Check in TEST mode

Insert a high reflection (low reflection) disc, and once perform automatic adjustment in AUTO mode, and then check in MANUAL mode.
Simultaneously observe waveforms of EFM(TP1112), FEOUT(TP1136), and TEOUT(TP1137).


Insert the high reflection disc, and after performing once automatic adjustment in the AUTO mode check in the MANUAL mode.
Insert the low reflection disc, and after performing once automatic adjustment in the AUTO mode check in the MANUAL mode. (Locate near the center of optical pickup.)
Does the laser diode light in Laser lighting step? Is laser power normal?
No
Check the pin 20 of IC1101, pin 4 of IC1401, and Q1101, SW1951A/B, CNS1101.
Yes
Is focus access performed when focus gain rough adjustment is made?
No
Check the pins 78 to 79 of IC1201, pins 17 and 18 of IC1601, and CNS1101.
Yes
Does the disc motor rotate in this step?
No
Check as stated in item "Disc motor fails to rotate".
Yes
Check whether Lfg*** gives 00 indication in this step. Check whether an indication of ✳00 or more appears when the Jog dial is turned.
No
Does the setting of pin 96 of IC1202 and pin 12 of IC1101 changes when the Jog dial is turned? Check waveform of pins 13 and 16 of IC1101.
Yes
Is focus servo actuated in the tracking gain adjustment step?
No
Check as stated in item "Focus servo cannot be actuated".
Yes
Does the disc motor rotate at high speed in this step?
No
For high reflection, check EFM waveform of pin 11 of IC1201. For low reflection, check ADIP waveform of pin 7 of IC1201. Check the pins 84 to 85 of IC1201, pins 2 to 26 of IC1601.
Yes
Is LTG*** or HTG*** within the range of 001 to 019 in the tracking gain adjustment step? If not, check whether adjustment is enabled with the Jog dial.
No
Check whether the setting of pin 99 of IC1201 and pin 6 of IC1101 changes when the Jog dial is turned.
Yes

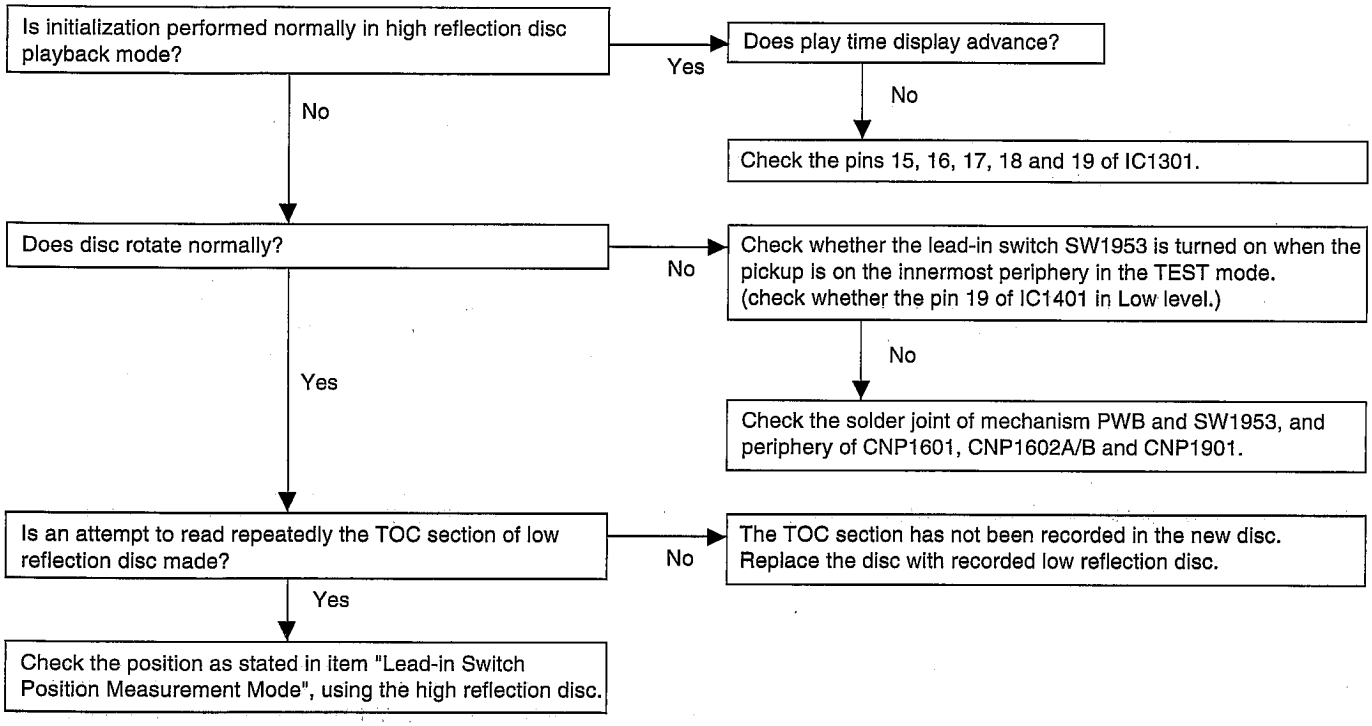
Continued on the next page.

Continued from the preceding page


Is LTB*** or HTB*** within FE~02 in tracking error balance adjustment step? If not, check whether adjustment is enabled with the Jog dial.
No
Check whether the setting of pin 8 of IC1101, and pin 98 of IC1201 changes when the Jog dial is turned.
Yes
Is servo actuated in focus gain rough adjustment step?
No
Check as stated in item "Tracking servo cannot be actuated".
Yes
Is slide servo actuated in continuous playback step?
No
Check as stated in item "Slide servo cannot be actuated".
Yes
Is CI error cluster counted up continuously in this step?
No
Check the pin 41 of IC1101 and pin 7 of IC1201.
Yes
Proceed to item "Normal playback".

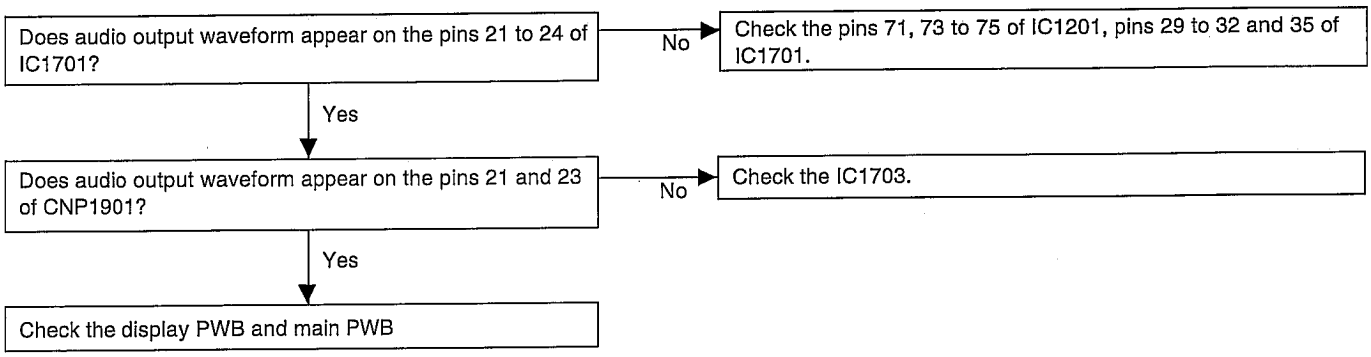
• Normal playback

When continuous count-up of subcode or CI error cluster in the TEST mode has been proved to be normal.


Is initialization performed normally in high reflection disc playback mode?
Yes
Does play time display advance?
No
Check the pins 15, 16, 17, 18 and 19 of IC1301.
No
Does disc rotate normally?
No
Check whether the lead-in switch SW1953 is turned on when the pickup is on the innermost periphery in the TEST mode. (check whether the pin 19 of IC1401 in Low level.)
No
Check the solder joint of mechanism PWB and SW1953, and periphery of CNP1601, CNP1602A/B and CNP1901.
Yes
Is an attempt to read repeatedly the TOC section of low reflection disc made?
No
The TOC section has not been recorded in the new disc. Replace the disc with recorded low reflection disc.
Yes
Check the position as stated in item "Lead-in Switch Position Measurement Mode", using the high reflection disc.

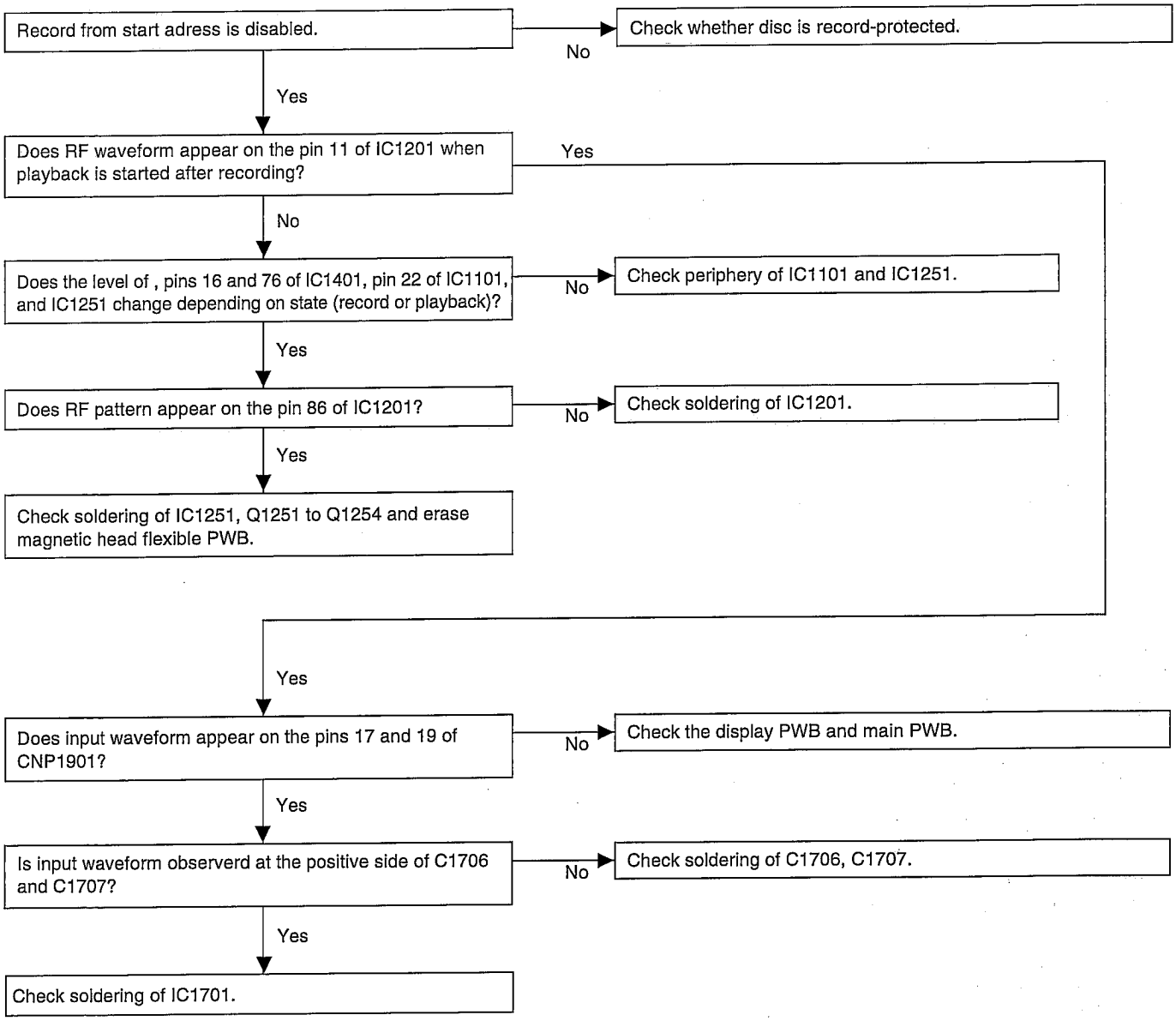
• Audio playback circuit

When no sound is output although play time display advance during playback in the normal mode


Does audio output waveform appear on the pins 21 to 24 of IC1701?
No
Check the pins 71, 73 to 75 of IC1201, pins 29 to 32 and 35 of IC1701.
Yes
Does audio output waveform appear on the pins 21 and 23 of CNP1901?
No
Check the IC1703.
Yes
Check the display PWB and main PWB

• Record/playback operation

Insert the low reflection disc, and check audio output by playback operation in the normal mode, and then set the TEST/REC mode.


Record from start adress is disabled.
No
Check whether disc is record-protected.
Yes
Does RF waveform appear on the pin 11 of IC1201 when playback is started after recording?
Yes
No
Does the level of , pins 16 and 76 of IC1401, pin 22 of IC1101, and IC1251 change depending on state (record or playback)?
No
Check periphery of IC1101 and IC1251.
Yes
Does RF pattern appear on the pin 86 of IC1201?
No
Check soldering of IC1201.
Yes
Check soldering of IC1251, Q1251 to Q1254 and erase magnetic head flexible PWB.
Yes
Does input waveform appear on the pins 17 and 19 of CNP1901?
No
Check the display PWB and main PWB.
Yes
Is input waveform observerd at the positive side of C1706 and C1707?
No
Check soldering of C1706, C1707.
Yes
Check soldering of IC1701.

• Focus servo cannot be actuated

Is waveform on the pin 7 of CNS1101 normal in the TEST mode focus gain rough adjustment step?
- No → Check waveform and connection of pins 17, 18 and 20 of IC1601, and pins 1, 2 and 3 of IC1602, and pins 78 and 79 of IC1201.
- Yes ↓

Is waveform on the pin 32 of IC1101 normal?
- No → Check soldering CNS1101 and IC1101. Replace the opbical pickup.
- Yes ↓

Is waveform on the pins 15 and 16 of IC1201 normal?
- No → Check soldering and connection of IC1201 and IC1101.
- Yes ↓

Check connection of pins 15 and 16 of IC1201, and pins 27 and 28 of IC1401, and check periphery of IC1401 and IC1201.

• Disc motor fails to rotate

Is waveform of pin 2 of IC1601 observed in the TEST mode focus gain rough adjustment step?
- No → Check connection of pins 5 and 6 of IC1603 and pins 84 and 85 of IC1201.
- Yes ↓

Is waveform of pins 11 and 12 of IC1601 and pins 3 and 4 of CNP1602 observed?
- No → Check soldering of IC1601, CNP1602 and disc motor (completed).
- Yes ↓

Does voltage on the positive and negative terminals disc motor change?
- Yes ↓

Replace the completed disc motor M1952.

• Tracking servo cannot be actuated

Does waveform appear on the pins 80 and 81 of IC1201, pins 5, 6 and 7 of IC1602, pins15, 16 and 22 of IC1601, and pins 4 and 6 of CNS1101 in the TEST mode focus gain adjustment step?
- No → Check soldering of IC1602, IC1601 and CNS1101.
- Yes ↓

Replace the optical pickup.

• Slide servo cannot be actuated.

Is the pickup moved to the outer andinner periphery when the Cue/Review button is pressed in the TEST mode.
- Yes → Check Soldering of IC1101.
- No ↓

Does the setting of pin 24 of IC1601 change when the Cue/ Review button is pressed?
- No → Check connection of pins 1 and 3 of IC1603 and pins 82 and 83 of IC1201.
- Yes ↓

Does the setting of pins 13 and 14 of IC1601 and pins 1 and 2 of CNP1602 change when the Jog dial is turned?
- No → Check soldering of IC1601 and CNP1602.
- Yes ↓

Does voltage on the positive and negative terminals of slide motor change when the Cue/Review button is pressed?
- No → Check solder joint of slide motor. Check for wire breakage.
- Yes ↓

Replace the slide motor M1951.

FUNCTION TABLE OF IC

IC901 RH-iX0154AWZZ(IX0154AW):System Microcomputer (1/2)

Pin No.	Port Name	Terminal Name	Input/Output	Function
1	P77/AN7	TRAY OPN SW	Input	CD tray position detection switch OPEN = "L" CLOSE = "H"
2	P76/AN6	TRAY CLS SW	Input	CD tray position detection switch OPEN = "H" CLOSE = "L"
3	P75/AN5	INITIAL AREA	Input	Initial setting for specific destination
4	P74/AN4	KEY1	Input	Key input taking-in in A/D taking-in mode
5	P73/AN3	KEY2	Input	Key input taking-in in A/D taking-in mode
6	P72/AN2	KEY3	Input	Key input taking-in in A/D taking-in mode
7	P71/AN1	KEY4	Input	Key input taking-in in A/D taking-in mode
8	P70/AN0	INITIAL SPAN	Input	Span selection initial setting for export general destination
9	PB3	EX-LCK3	Output	Serial parallel IC for surround control Interface serial latch signal 3
10	PB2/DA	DIS RESET	Output	Reset signal to FL display driver IC
11	P57/SRDY3/ AN15	STIND/MIC	Input	Tuner stereo IND taking-in and MIC insertion detection (A/Din)
12	P56/SCLK3/ AN14	DIS SCK	Outout	FL display driver IC interface (hard serial) Clock to display driver
13	P55/SOUT3/ AN13	DIS SDATA	Output	FL display driver IC interface (hard serial) Data to display driver
14	P54/SIN3/ AN12	MKEY2	Input	Detection of CD cassette switch due to A/D taking-in
15	P53/SRDY3/ AN11	MKEY1	Input	Detection of CD cassette switch due to A/D taking-in
16	P52/SCLK2/ AN10	JOG1	Input	JOG dial detection Through JOG1 and JOG2 ports
17	P51/SOUT2/ AN9	JOG2	Input	JOG dial detection Through JOG1 and JOG2 ports
18	P50/SIN2/ AN8	MLA	Output	Serial data latch signal to CD DSP IC
19	P67/SRDY1/ CS/SCLX2	MD DSTB	Input	MD microcomputer interface (hard serial) MD data strobe input L: Communication enabled H: Communication disabled
20	P66/SCLK1	MD DSCK	Output	MD serial data clock output
21	P65/SOUT1	MD K-DATA	Output	MD serial data output
22	P64/SIN1	MD DATA	Input	MD serial data input
23	P63/CNTR1	CD D-OUT	Input	1. Focus check OK: "H" NG: "L" 2. TC count pulse
24	P62/CNTR0	TUN T I/O	Input/Output	Tuner PLL control data T I/O OUT: Frequency setting, reference frequency, band, IF request, MODE, etc. IN: IF count data, lock detection, SD detection, etc.
25	P61/PWM	TUN TCLK	Output	Tuner PLL control clock output
26	P60	TUN PIRI	Output	Tuner PLL control period output
27	P47/T3 OUT	VOL DATA	Output	Electronic Vol M62419FP serial interface Serial data output
28	P46/T1 OUT	VOL CLK	Output	Clock output
29	P45/INT1/2CR	P-IN	Input	Power failure detection L = Power failure H = Power supply
30	P44/INT4	CD MCK	Output	CD DSP M65822FP interface Clock output to DSP
31	P43/INT3	CD MLAS	Output	Latch signal to servo
32	P42/INT2	RX-IN	Input	Remote control data reading (INT)
33	P41	CD MSD	Output	CD DSP M65822FP interface Serial data output to DSP
34	P40/INT0	SBQS	Input	Frame sync signal from CD DSP
35	RESET	RESET	Input	Microcomputer reset signal input
36	PB1/XCIN	XCIN	Input	Connect 32.768 kHz quartz oscillator.
37	PB0/XCOUT	XCOUT	Output	Connect 32.768 kHz quartz oscillator.
38	XIN	XIN	Input	Connect 8.0 MHz ceramic oscillator.
39	XOUT	XOUT	Output	Connect 8.0 MHz ceramic oscillator.
40	VSS	VSS	–	GND terminal
41	P27	MD SYN	Output	"L" output is set during playback (CD function) and during CUE/REVIEW. "PLAYL" output is set with the TAPE function.

IC901 RH-iX0154AWZZ(IX0154AW):System Microcomputer (2/2)

Pin No.	Port Name	Terminal Name	Input/Output	Function
42	P26	MD LOAD	Input	MD load SW detection "H" -> "L": DISC IN is set.
43	P25	MD S-ID	Output	Signal is output at the top of music of CD. "H": Output Used also for MD ON
44	P24	P-OUT	Output	Reset signal for MD microcomputer
45	P23/DIG19	MOD0	Output	Setting output for CD DSP M65822FP interface data mode
46	P22/DIG18	MOD1	Output	Setting output for CD DSP M65822FP interface data mode
47	P21/DIG17	MOTOR	Output	CD cassette motor control signal ON = "H" OFF = "L"
48	P20/DID16	SOL	Output	CD cassette motor control signal ON = "H" OFF = "L"
49*	P17/DIG15	NC	Output	Not used
50-58	P18/DIG14-P06/SEG38/DIG6	UDIG00-UDIG08	Output	Digit output for FL drive
59-77	P05/SEG37/DIG5-P93/SEG19	USEG00-USEG18	Output	Segment output for FL drive
78*-80*	P92/SEG18-P90/SEG16	NC	–	Not used
81	P87/SEG15	P CONT	Output	Power ON/OFF control ON = "H" OFF = "L"
82	P86/SEG14	LOCK/DRD	Input	CD disc rotation speed reduction and frame sync detection 1. Disc rotation linear speed reduction signal <Brake control> Normal: "L" Reduction by 35.6% as compared to normal linear speed: "H" 2. Sync state Frame sync signal check Correct: "H" Incorrect: "L"
83	P85/SEG13	JP1	Output	CD normal: "H" Direct sending of jump pulse: "L"
84	P84/SEG12	PU IN	Input	When CD pickup exists on innermost periphery: "L" In other cases: "H" Note: If this port is set to "L", slide motion must be stopped without delay. <Chattering removal is not required.>
85	P83/SEG11	EX-DO	Output	Serial parallel driver interface Serial data output
86	P82/SEG10	EX-CLK	Output	Clock output
87	P81/SEG9	EX-LCK2	Output	Latch signal 1
88	P80/SEG8	EX-LCK1	Output	Latch signal 2
89	PA7/SEG7	M-UP-SW	Input	CD mechanism UP/DOWN detection Play position: "H"
90	PA6/SEG6	DISC-TBL-SW	Input	CD disc table position detection
91	VCC	VCC	–	+5V
92	PA5/SEG5	DISC GHG MTR+	Output	CD disc table motor control output
93	PA4/SEG4	DISC GHG MTR-	Output	CD disc table motor control output
94	PA3/SEG3	APSS IN	Input	CD cassette APSS signal detection Between musics: "H"
95	PA2/SEG2	PLS IN	Input	CD cassette rotation detection pulse input Rotation stop = Pulse is not input
96	PA1/SEG1	TRY OPN	Output	CD tray motor control output
97	PA0/SEG0	TRY CLS	Output	CD tray motor control output
98	VEE	VEE	–	Pull-down voltage input for FL drive
99	AVSS	AVSS	–	GND
100	VREF	VREF	–	+5V

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC901 RH-iX0154AWZZ(IX0154AW):System Microcomputer

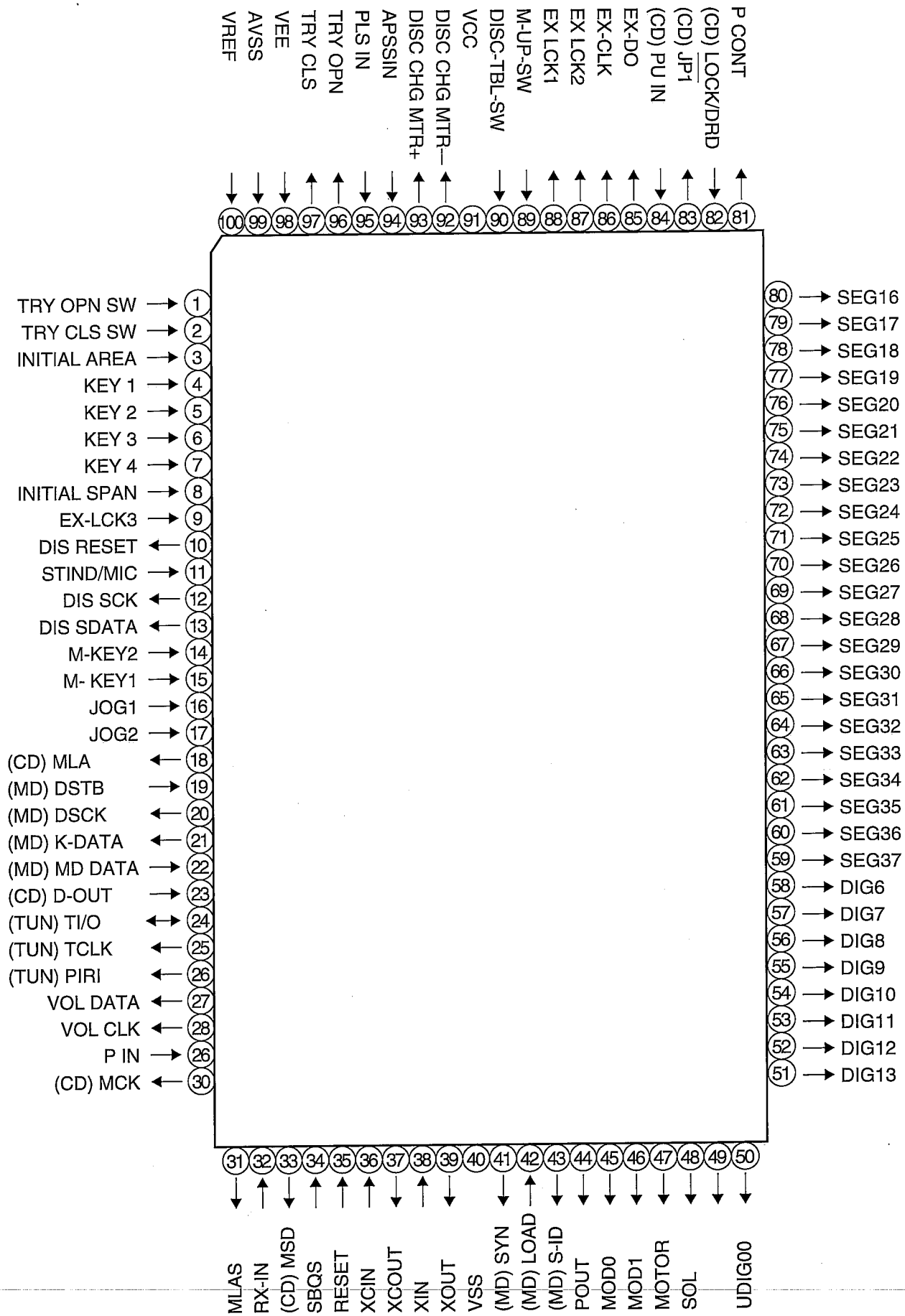


Figure 85 BLOCK DIAGRAM OF IC

IC1101 VHiiR3R50//-1(IR3R50):RF Signal Processor (1/2)

Pin No.	Terminal Name	Input/Output	Function
1	RF1	Input	RF signal input terminal 1 To input RF signal output of optical pickup.
2	RF2	Input	RF signal input terminal 2 To input RF signal output of optical pickup.
3	VREFO	Output	Reference voltage (Vcc/2) output terminal Connect the bypass capacitor of 1 μF or more.
4	VREFC	Input	Terminal for connection of reference voltage input bypass capacitor
5	RFADD	Output	Resistance addition output terminal (RF1 to 4)
6	TCGI	Input	Track cross detection signal amp. inverse input terminal (for groove)
7	TCGO	Output	Track cross detection signal amp. output terminal
8	TBAL	Input	Tracking balance adjustment terminal
9	EOUT	Output	I-V conversion output terminal for servo photodiode output E
10	EIN	Input	Input terminal for servo photodiode output E
11	FIN	Input	Input terminal for servo photodiode output F
12	FOUT	Output	I-V conversion output terminal for servo photodiode output F
13	BOUT	Output	I-V conversion output terminal for servo photodiode output B
14	BIN	Input	Input terminal for servo photodiode output B
15	AIN	Input	Input terminal for servo photodiode output A
16	AOUT	Output	I-V conversion output terminal for servo photodiode output A
17	FBAL	Input	Terminal for adjustment of focus balance
18	LVV	Output	Power output terminal for monitor diode
19	APC	Input	Input terminal for monitor diode output
20	LDOUT	Output	Terminal for laser diode drive external PNP transistor
21	LDON	Input	Laser output ON/OFF control terminal H or open: Operation L: Nonoperation
22	LDVAR	Input	Laser output control terminal When power voltage is applied, laser output becomes maximum. When voltage is 0V, laser output becomes minimum.
23	DISC	Input	Disc mode selection signal input terminal H or open: Pit train L: Groove
24	TCGAV	Output	DC conversion output of track cross amp. (groove)
25	DFCTI	Input	Defect detection amp. inverse input terminal
26	DFCTO	Output	Defect detection amp. output terminal
27	GND1	–	Ground terminal
28	VCC1	–	Power terminal Connect 2.2μF capacitor between this terminal and GND.
29	TONF	Input	TOTAL output amp. feedback terminal
30	TOTAL	Output	TOTAL output terminal
31	FENF	Input	Focus error amp. feedback terminal
32	FEOUT	Output	Focus error signal output terminal
33*	TENF	Input	Tracking error amp. feedback terminal
34	TEOUT	Output	Tracking error signal output terminal
35	TCGF	Output	Track cross amp. (groove) output

IC1101 VHiiR3R50//-1(IR3R50):RF Signal Processor (2/2)

Pin No.	Terminal Name	Input/Output	Function
36	TCRSG	Input	Track cross comparator noninverse input terminal (groove mode)
37	TCRSG/	Input	Track cross comparator inverse input terminal (groove mode)
38	TCRSO	Output	Track cross output terminal
39	TCRSP	Input	Track cross comparator input terminal (pit mode)
40	RFENV	Output	RF signal envelope output terminal
41	WBO	Output	ADIP signal output terminal
42*	LPFO	Input	ADIP signal LPF amp. output terminal
43	LPFI	Input	ADIP signal LPF amp. input terminal
44	HPFO	Output	ADIP signal HPF amp. output terminal
45*	ADO1	Output	ADIP signal preamp. output terminal
46	ADI1	Input	ADIP signal preamp. input terminal
47	ADO2	Output	ADIP signal AGC amp. output terminal
48	ADAGC	–	Terminal for connection of smoothing capacitor for ADIP signal AGC
49	ADI2/	Input	ADIP AGC amp. inverse input terminal
50	ADI2	Input	ADIP AGC amp. noninverse input terminal
51	RFBP2	Output	BPF output terminal for RF2 input signal
52	RFBP1	Output	BPF output terminal for RF1 input signal
53	EFMI	Input	EMF input terminal (noninverse)
54	EFMI/	Input	EMF input terminal (inverse)
55	ASLO	Output	Slice control output terminal
56	EFM	Output	RF signal output terminal
57	EFMAI	Input	Equalizer amp. input terminal
58	RFO1	Output	RF signal filter amp. output signal
59	RFEQ	–	Terminal for connection of capacitor for RF signal equalizer
60*	RFO2	Output	RF signal preamp. output
61	RFI2	Input	RF signal preamp. output terminal
62	RFO3	Output	RF signal AGC amp. output terminal
63	RFAGC	–	Terminal for connection of smoothing capacitor for RF signal AGC
64	GND2	–	Ground terminal
65	VCC2	–	Power terminal Connect 2.2µF capacitor between this terminal and GND.
66	RFI3/	Input	RF signal AGC amp. inverse input terminal
67	RFI3	Input	RF signal AGC amp. noninverse input terminal
68	RFI2	Output	RF1 input signal and RF2 input signal resistance addition output terminal
69	RF1234	Output	RF1 to 4 input signal resistance addition output terminal
70	RF34	Output	RF3 input signal and RF4 input signal resistance addition output terminal
71	RF3	Input	RF signal input terminal 3 Input of RF signal output of optical pickup
72	RF4	Input	RF signal input terminal 4 Input of RF signal output of optical pickup

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1201 VHiLR37644/-1 (LR37644):Encoder Decoder (1/2)

Pin No.	Terminal Name	Input/Output	Function
1	FE	Analog Input	Focus error signal A-B
2	TE	Analog Input	Tracking error signal E-F
3	TOTAL	Analog Input	Focus signal A+B
4	DFCT	Analog Input	Disc defect detection signal E+F
5	AVCC	—	Analog power terminal
6	AGND	—	Analog ground terminal
7	WBI	Input	ADIP Wobble signal
8	TCRSO	Input	Track cross signal
9	ASY	Output	Positive logic output for EFM signal slice level control
10	ASYX	Output	Negative logic output for EFM signal slice level control
11	EFMI	Input	EFM signal input from RF amp.
12	VDD1	—	Digital power terminal
13	DGND	—	Digital ground terminal
14	RFLCT	Input	Signal to change gain A, B, E and F depending on reflection factor of disc
15	SENSE	Output	Servo status detection signal
16	FOK	Output	Focus OK detection signal
17	GFS	Output	Frame sync lock status output H: When the status corresponds to status of insert sync.
18	COUT	Output	Track cross signal output
19	MCCK	Output	Clock output for microcomputer Clock output is performed also in case of RSTX=0.
20	RSTX	Input	Chip reset input L: Reset
21	DINTX	Output	Output terminal to request interruption into system controller interface
22	SYD0	Output	System controller interface data bus terminal (LSB)
23	SYD1	Output	System controller interface data bus terminal
24	SYD2	Output	System controller interface data bus terminal
25	SYD3	Output	System controller interface data bus terminal
26	SYD4	Output	System controller interface data bus terminal
27	SYD5	Output	System controller interface data bus terminal
28	SYD6	Output	System controller interface data bus terminal
29	SYD7	Output	System controller interface data bus terminal (MSB)
30	SYRDX	Input	System interface register read pulse input
31	SYRS	Input	System controller interface register selection input
32	SYWRX	Input	System interface register write pulse input
33	RARASX	Output	Low address strobe signal output to external D-RAM
34	RACASX	Output	Column address strobe signal output to external D-RAM
35	RAWEX	Output	Data write enable signal output to external D-RAM
36	RAOEX	Output	Data output enable signal output external D-RAM
37	VDD2	—	DRAM interface power terminal
38	DGND	—	Digital ground terminal
39	RAD0	Input/Outout	Data input/output D0 (LSB) to and from external D-RAM
40	RAD1	Input/Output	Data input/output D1 to and from external D-RAM
41	RAD2	Input/Output	Data input/output D2 to and from external D-RAM
42	RAD3	Input/Output	Data input/output D3 (MSB) to and from external D-RAM
43	RAA0	Output	Address output ADR0 (LSB) to external D-RAM
44	RAA1	Output	Address output ADR1 to external D-RAM
45	RAA2	Output	Address output ADR2 to external D-RAM
46	RAA3	Output	Address output ADR3 to external D-RAM
47	RAA4	Output	Address output ADR4 to external D-RAM
48	RAA5	Output	Address output ADR5 to external D-RAM
49	RAA6	Output	Address output ADR6 to external D-RAM
50	RAA7	Output	Address output ADR7 to external D-RAM

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1201 VHiLR37644/-1 (LR37644):Encoder Decoder (2/2)

Pin No.	Terminal Name	Input/Output	Function
51	RAA8	Output	Address output ADR8 to external D-RAM
52	RAA9	Output	Address output ADR9 to external D-RAM
53	TEST0	Input	Input for test Usually connect to GND to use.
54	TEST1	Input	Input for test Usually connect to GND to use.
55*	C2PO	Output	Flag monitor output after C2 error correction
56*	ACRCER	Output	CRC error flag monitor output of ADIP
57	DIN	Input	Digital input signal
58	DOOUT	Output	Digital output signal
59	X1I	Input	Oscillation circuit input 33.8688MHz
60	X1O	Output	Oscillation circuit output 33.8688MHz
61	BCLK	Output	Music data shift clock
62	VDD1	—	Digital power terminal
63	DGND	—	Digital ground terminal
64	LRCK	Output	Music data L-ch/R-ch selection output
65	DFCK	Output	Clock 256 Fs for AD/DA converter digital filter
66	ADDATA	Input	Audio data input
67	DADATA	Output	Audio data output
68	X16MO	Output	Clock 16.9344MHz
69	SGLAT	Output	Compressed data latch clock
70	SGDAT	Input/Output	Compressed data input in record mode Compressed data output in playback mode
71	SGFLG	Output	Compressed data error flag output in playback mode
72	SGRQT	Input	Compressed data request signal
73	SGSHIFT	Output	Compressed data bit clock
74	DADDATA	Input/Output	Music data output in record mode Music data input in playback mode
75	ATBCLK	Output	Music data shift clock
76	ATLRCK	Output	Music data L-ch/R-ch selection output
77	X176KO	Output	Clock output f=175.4kHz (4 fs)
78	FODRF	Output	Focus servo forward output PWM
79	FODRR	Output	Focus servo reverse output PWM
80	TRDRF	Output	Tracking servo forward output PWM
81	TRDRR	Output	Tracking servo reverse output PWM
82	SLDRF	Output	Slide servo forward output PWM
83	SLDRR	Output	Slide servo reverse output PWM
84	SPDRF	Output	Slide servo forward output or spindle servo output PWM
85	SPDRP	Output	Slide servo reverse output or spindle rotation forward/reverse selection
86	EFMO	Output	EFM signal output in record mode. CIF (CI error flag) monitor output in playback mode.
87	VDD1	—	Digital power terminal
88	DGND	—	Digital ground terminal
89	AGAIN	Analog Output	A amp. gain adjustment output of RF LSI
90	AGAINS	Analog Output	A amp. gain selection output of RF LSI (High refrection <-> Low refrection)
91	BGAIN	Analog Output	B amp. gain adjustment output of RF LSI
92	BGAINS	Analog Output	B amp. gain selection output of RF LSI (High refrection <-> Low refrection)
93	EGAIN	Analog Output	E amp. gain adjustment output of RF LSI
94	EGAINS	Analog Output	E amp. gain selection output of RF LSI (High refrection <-> Low refrection)
95	FGAIN	Analog Output	F amp. gain adjustment output of RF LSI
96	FGAINS	Analog Output	F amp. gain selection output of RF LSI (High refrection <-> Low refrection)
97*	FBAL	Analog Output	Balance adjustment for focus error
98	TBAL	Analog Output	Balance adjustment for tracking error
99	TCGAIN	Analog Output	Gain adjustment output of tracking cross detecting amp.
100	VREF	Analog Output	Reference Voltage of RF LSI

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1202 RH-iX2474AFZZ (IX2474AF):4Mbit D-RAM

Pin No.	Terminal Name	Input/Output	Function
1	I/O 1/DQ0	Input/Output	Data input/output
2	I/O 2/DQ1	Input/Output	Data input/output
3	$\overline{WE}$	Input	Write enable signal input
4	$\overline{RAS}$	Input	Low address strobe signal input
5	A9	Input	Address input
6	A0	Input	Address input
7	A1	Input	Address input
8	A2	Input	Address input
9	A3	Input	Address input
10	VCC	—	Power terminal (3.3V)
11	A4	Input	Address input
12	A5	Input	Address input
13	A6	Input	Address input
14	A7	Input	Address input
15	A8	Input	Address input
16	$\overline{OE}$	Input	Output enable signal input
17	$\overline{CAS}$	Input	Column address strobe signal input
18	I/O 3/DQ2	Input/Output	Data input/output
19	I/O 4/DQ3	Input/Output	Data input/output
20	GND/VSS	—	Ground terminal

IC1301 VHiLR376411-1 (LR376411):ATRAC Companding (1/2)

Pin No.	Terminal Name	Input/Output	Function	
1	ADDATA	Input	AD data input	Audio data input
2*	DADATA	Output	DA data output	Audio data output
3	LRCK	Input	L/R clock	L-ch/R-ch selection clock
4	DSHIFT	Input	Data shift clock	DA data shift clock
5	RESET	Input	Reset input	LSI reset input "0": Reset
6	QENDC	Input	Selection for ENDEC	Setting to "1" when LR3768 is used as ENDEC
7	DADDATA	Input/Output	DA/AD data input/output	Audio data input/output
8	XMCKI	Input	Master clock input	16.9344MHz
9	TEST1	Input	Test terminal	Usually "0" is input
10	TEST0	Input	Test terminal	Usually "0" is input
11	SGDATI	Input	SG data input	SG data serial input terminal
12	VCC	—	Power supply	Power terminal
13	GND	—	Ground	Ground terminal
14	SGDATO	Output	SG data output	Serial output terminal for SG data
15	SGSHIFT	Input	SG data shift clock	
16	SGRQT	Input/Output	SG data request	SG data transfer request signal
17	SGFLG	Input	SG data error flag	SG data error flag input (0: Correct, 1: Error)
18	SGDATIO	Input/Output	SG data input	SG data serial input/output
19	SGLAT	Input	SG data latch signal	Latch clock input terminal for every 8 bits of SG data
20	MCRD	Input	Microcomputer read signal	
21	MCWR	Input	Microcomputer write signal	Register write signal (write on raise)
22	MCRS	Input	Microcomputer register selection	1: address register selection 0: data register selection
23	MCD7	Input/Output	Microcomputer data bus	Microcomputer input/output data bus
24	MCD6	Input/Output		
25	MCD5	Input/Output		
26	MCD4	Input/Output		
27	MCD3	Input/Output		
28	MCD2	Input/Output		
29	MCD1	Input/Output		
30	MCD0	Input/Output		
31*	MCO07	Output	Microcomputer extension output port 0	
32*	MCO06	Output		
33*	MCO05	Output		
34*	MCO04	Output		
35*	MCO03	Output		
36*	MCO02	Output		
37	VCC	—	Power supply	Power terminal
38	GND	—	Ground	Ground terminal
39*	MCO01	Output	Microcomputer extension output port 0	
40*	MCO00	Output		
41*	MCO17	Output	Microcomputer extension output port 1	
42*	MCO16	Output		
43*	MCO15	Output		
44*	MCO14	Output		
45*	MCO13	Output		
46*	MCO12	Output		
47*	MCO11	Output		
48*	MCO10	Output		
49	IOTES1	Input	Test terminal	Usually "0" is input
50	IOTES0	Input	Test terminal	Usually "0" is input

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1301 VHiLR376411-1 (LR376411):ATRAC Companding (2/2)

Pin No.	Terminal Name	Input/Output	Function	
51*	MCO27	Output	Microcomputer extension output port 2	
52*	MCO26	Output		
53*	MCO25	Output		
54*	MCO24	Output		
55*	MCO23	Output		
56*	MCO22	Output		
57*	MCO21	Output		
58*	MCO20	Output		
59	MCI07	Input	Microcomputer extension input port	
60	MCI06	Input		
61	MCI05	Input		
62	VCC	—	Power supply	Power terminal
63	GND	—	Ground	Ground terminal
64	MCI04	Input/Output	Microcomputer extension input port (input/output in test mode)	
65	MCI03	Input/Output		
66	MCI02	Input/Output		
67	MCI01	Input/Output		
68	MCI00	Input/Output		
69	X44K	Input/Output	(Input/output in test mode)	
70*	SDTO	Input/Output		
71	SDTI	Input/Output		
72	ADMUTE	Input/Output		
73	DMUTE	Input/Output		
74	GADDAT	Input/Output		
75	GDADAT	Input		
76	G74R	Input	General-use gate D-flip-flop (input in test mode)	
77	G74CK	Input		
78	G74D	Input		
79	G74Q	Input/Output		
80*	G74QX	Input/Output		
81*	INVO	Input/Output	INV output	General-use gate * INV output Inverse output of signal connected to INV input * AND output AND output of signal connected to AND1 input 1 and AND input 2 * OR output OR output of signal connected to OR input 1 and OR input 2 (Input in test mode)
82	ANDO	Input/Output	AND output	
83*	ORO	Input/Output	OR output	
84	ORI1	Input	OR input 1	
85	ORI2	Input	OR input 2	
86	ANDI1	Input	AND input 1	
87	VCC	—	Power supply	Power terminal
88	GND	—	Ground	Ground terminal
89	ANDI2	Input	AND input 2	General-use gate * EXOR output Exclusive OR output of signal connected to EXOR input A and EXOR input B * NAND output NAND inverse output of signal connected to NAND input A and NAND input B (Input/output in test mode)
90	INVI	Input	INV input	
91	EORA	Input	EXOR input A	
92	EORB	Input	EXOR input B	
93*	EORO	Input/Output	EXOR output	
94	NA1A	Input	NAND1 input A	
95	NA1B	Input	NAND1 input B	
96*	NA1O	Input/Output	NAND1 output	
97	NA2A	Input/Output	NAND2 input A	
98	NA2B	Input/Output	NAND2 input B	
99	NA2O	Input/Output	NAND2 output	
100*	–	–	Terminal not used	

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1401 RH-iX2500AFZZ (IX2500AF):MD System Microcomputer (1/2)

Pin No.	Terminal Name	Input/Output	Function
1	MINF	Input	Disc classification detect input
2	TESTK1	Input	Test key input 1
3	TESTK2	Input	Test key input 2
4	HINF	Input	Mechanism/Head location input
5	AVSS	—	Ground terminal
6	TEST	Input	Input for test, usually connected ground
7*	X2	Output	Not used
8	X1	Input	Connected to power supply 2.8V
9	VSS	—	Ground terminal
10	5.6448MHz	Input	5.6448MHz input
11*	XTAL	Output	Not used
12	RESET	Input	Reset input
13	NC	—	Not connection internally
14	MDRSW	Output	MDRSW output
15	HFON	Output	High frequency super position ON/OFF control output
16	HDON	Output	Magnetic head current ON/OFF control output
17	LD+	Output	Loading motor + control output
18	LD-	Output	Loading motor – control output
19	INNSW	Input	Inner switch detection input
20*	FSW2	Output	Not used
21	FSW1	Output	Switch power frequency selection
22	DINT	Input/Output	LSI interruption request signal
23	NC	—	Not connection internally
24	ST-ID	Input	Synchro record start input
25	SERCH	Input	Synchro record interrupt input
26	R/$\overline{P}$	Output	Record /Play select output
27	DSENSE	Input	Encoder/Decoder LSI servo status detection signal
28	FOK	Input	Focus OK detection signal input
29	GFS	Input	Frame sync lock status input
30	CIN	Input	Track count signal input
31	SYD0	Input/Output	Encoder/Decoder LSI data bus terminal
32	SYD1	Input/Output	Encoder/Decoder LSI data bus terminal
33	SYD2	Input/Output	Encoder/Decoder LSI data bus terminal
34	SYD3	Input/Output	Encoder/Decoder LSI data bus terminal
35	SYD4	Input/Output	Encoder/Decoder LSI data bus terminal
36	SYD5	Input/Output	Encoder/Decoder LSI data bus terminal
37	SYD6	Input/Output	Encoder/Decoder LSI data bus terminal
38	SYD7	Input/Output	Encoder/Decoder LSI data bus terminal
39	SYRD	Output	Encoder/Decoder LSI register read pulse output
40	SYRS	Output	Encoder/Decoder LSI register selection output
41	SYWR	Output	Encoder/Decoder LSI register write pulse output
42	ADJS	Output	Output for check
43	EPCS	Output	E^2PROM chip selection output
44	EPPD	Input/Output	E^2PROM serial data input/output
45	EEPK	Output	E^2PROM sirial clock output
46	DISC	Output	Disc classification detect output
47	PCNT0	Output	Power control output
48	PCNT1	Output	Power control output
49	LDON	Output	Laser ON/OFF control signal output
50	NC	—	Not connection internally
51*	ANLPTR	Output	Not used

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1401 RH-iX2500AFZZ (IX2500AF):MD System Microcomputer (2/2)

Pin No.	Terminal Name	Input/Output	Function
52	ADPD	Output	A/D converter power on output
53	DAPD	Output	D/A converter power on output
54*	DFS0	Output	Not used
55*	DFS1	Output	Not used
56	DSTB	Output	MD strobe output
57	MDDATA	Output	MD data output
58	KDATA	Input	MD key data input
59	DSCK	Input	MD clock input
60	NC	–	Not connection internally
61	DIGEX	Output	Digital out control output
62	DIGCD	Output	Digital in selection input
63	VCC	–	Power terminal (2.8V)
64	XRST	Output	System reset output
65	ADMUT	Output	Muting signal output
66	EMPH	Output	Emphasis control output
67	DAMUT	Output	Audio muting ON/OFF output
68	NC	–	Not connection internally
69	DOUTMT	Output	Digital out control
70	LOAD IN	Input	MD LOAD SW detection input
71	ERROR	Input	PLL lock detection input
72	AVCC	–	Power terminal (3.5V)
73	TEST2	Input	Input for test
74	TEST1	Input	Input for test
75	TEST0	Input	Input for test
76	LDVAR	Output	Laser power control output
77	TCG	Input	TOTAL signal level detection input
78	AVCK2	Input	AD/DA converter 3.1V monitor input
79	AVCK1	Input	Power 5V monitor input
80	TEMP	Input	Temperature detection input

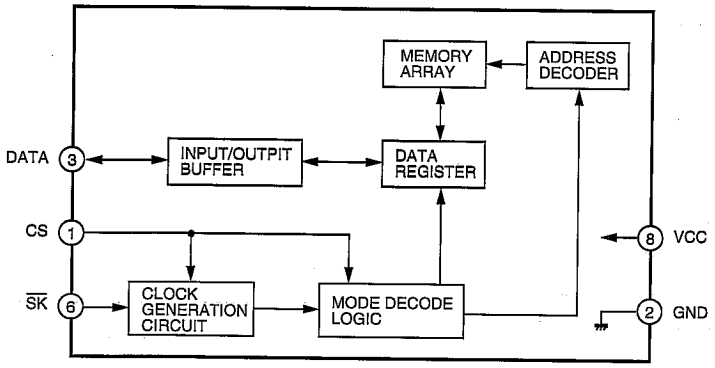
In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1701 VHiTDA1309H-3 (TDA1309H):A/D, D/A Converter

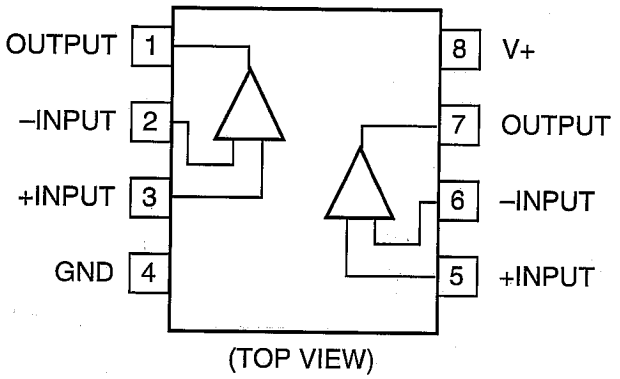
Pin No.	Terminal Name	Input/Output	Function
1	ADBCK	Input	ADC bit clock (32 fs or 64 fs)
2	ADWS	Input	ADC word selection
3	MODE0	Input	ADC/DAC mode selection
4	ADENB	Input	ADC serial data/enable input
5*	OVLOAD	Output	Not used
6	ADPON	Input	ADC power on mode input
7	VSSA-AD	–	ADC ground terminal
8	VDDA-AD	–	ADC analog power terminal
9	VAN (Vref)	Input	ADC load reference voltage input
10	VR	–	ADC decoupling condenser terminal
11	VRP (Vref)	Input	ADC reference voltage
12	BAOL	Output	ADC input amplifier output (L-CH)
13	BAIL	–	ADC input amplifier virtual ground
14	BAIR	–	ADC input amplifier virtual ground
15	BAOR	Output	ADC input amplifier output (R-CH)
16	ADREF	–	ADC decoupling condenser terminal
17	IREF	Input	ADC/DAC reference current resistance input
18	DAREF	–	DAC decoupling condenser terminal
19	VDD-OPE	–	Power terminal
20	VSS-OPE	–	Ground terminal
21	VOUTL	Output	DAC output voltage (L-CH)
22	DACL	Output	DAC output current (L-CH)
23	DACR	Output	DAC output current (R-CH)
24	VOUTR	Output	DAC output voltage (R-CH)
25	VDDA-DA	–	DAC analog power terminal
26	VSSA-DA	–	DAC analog ground terminal
27	VSSD-AD/DA	–	Digital ground terminal
28	VDDD-AD/DA	–	Digital power terminal
29	DAPON	Input	DAC power on mode input
30	DADEN	Input	DAC digital de-emphasis input
31	DABCK	Input	DAC bit clock
32	DAWS	Input	DAC word selection
33	VSSD	–	Digital filter ground terminal
34	VDDD	–	Digital filter power terminal
35	DASDA	Input	DAC serial data input
36	ANLPTR	Input	ADC/DAC analog loop through input
37	TEST0	Input	ADC/DAC enable test mode input
38	TEST1	Input	ADC/DAC enable test mode input
39	VSS-IO	–	Digital I/O ground
40	SYSCLK	Input	ADC/DAC system clock input
41	ADSDA	Output	ADC serial data output
42	MODE1	Input	ADC/DAC mode 1 selection input
43	MODE2	Input	ADC/DAC mode 2 selection input
44	CLKEDGE	Input	ADC/DAC input bit clock leading edge

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1402 VHiS2900AFE-1 (S2900AFE)



IC1802 VHiNJM2403M-1 (NJM2403M)



IC1801 VHiHA16114F-1 (HA16114F)

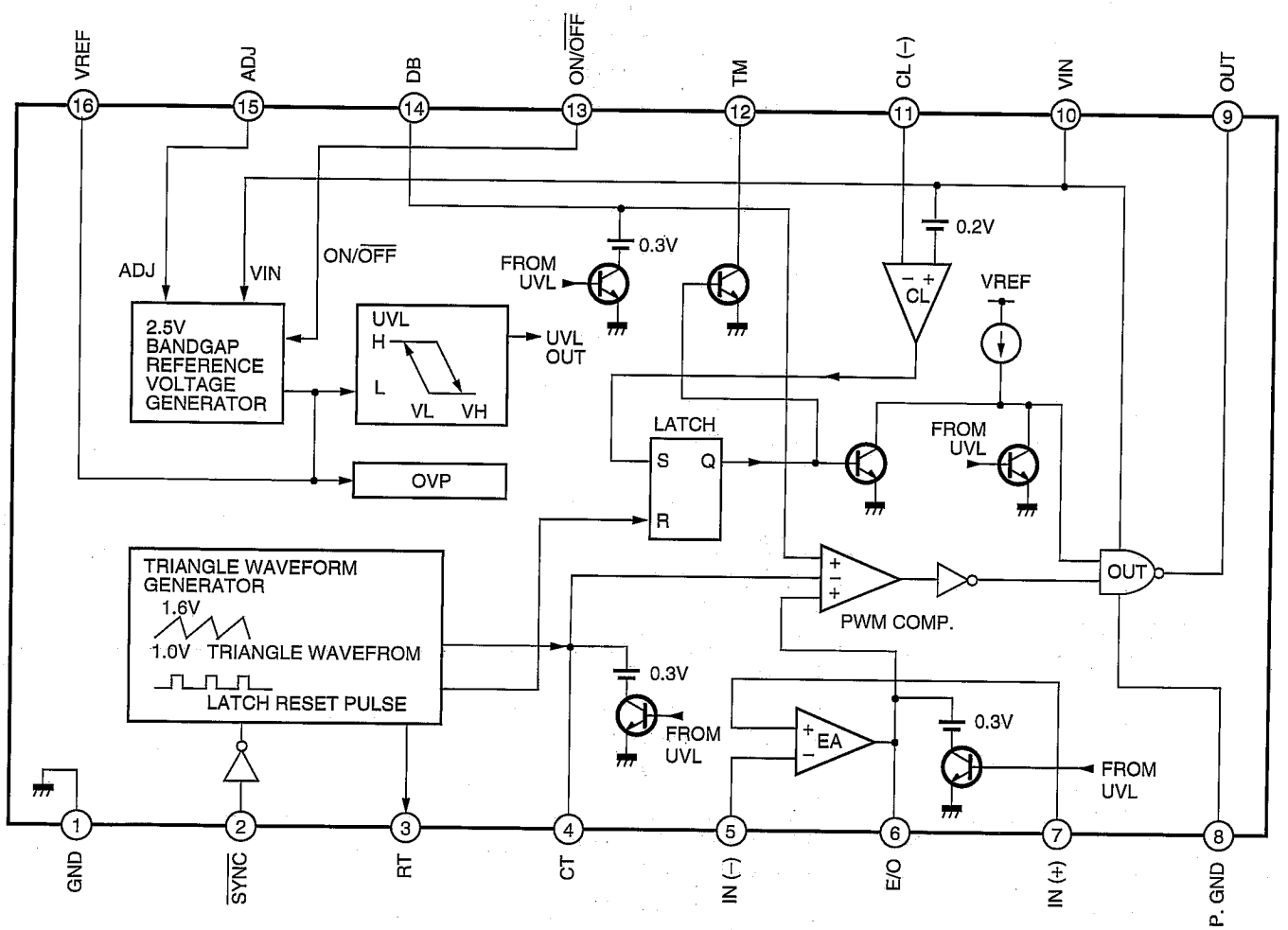
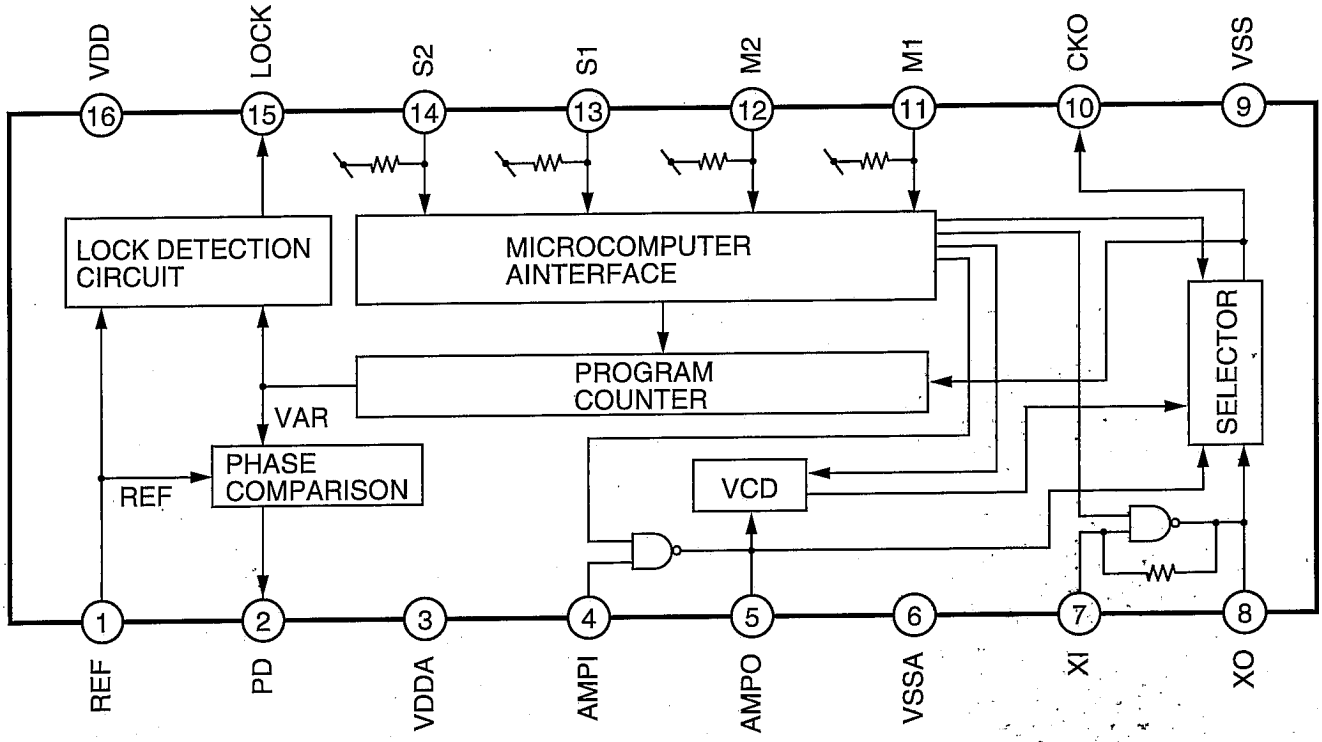
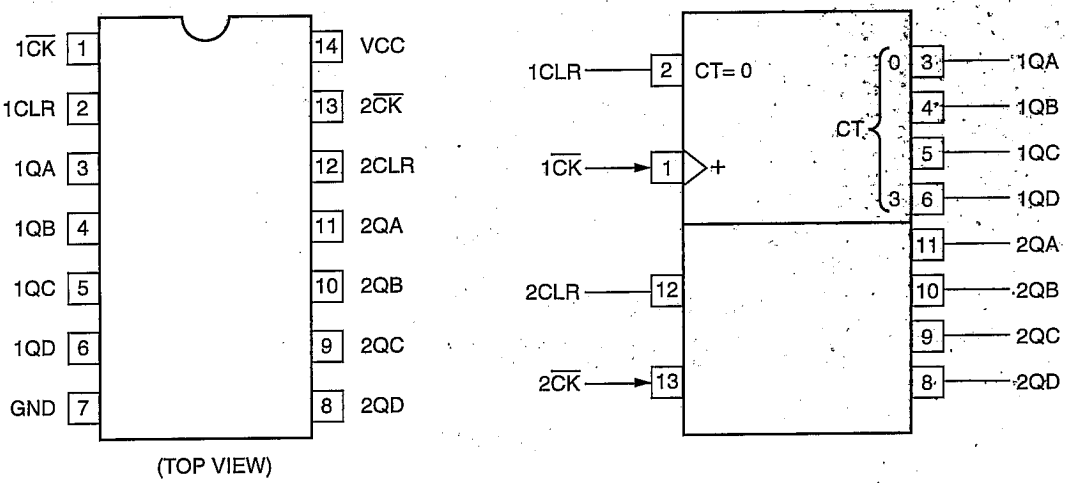


Figure 96 BLOCK DIAGRAM OF IC

IC1907 VHiTC9246F/-1 (TC9246F)



IC1908 VHi74VHC393F1 (74VHC393F)



IC1911 VHi74VHC74F-1 (74VHC74F)

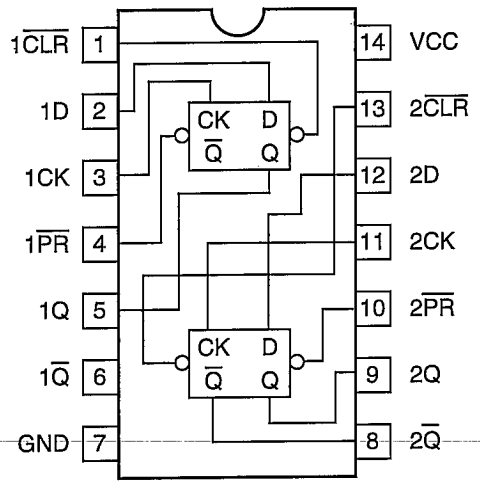


Figure 97 BLOCK DIAGRAM OF IC

WIRING OF PRIMARILY SUPPLY LEADS (FOR UK ONLY)

If any one of the bands shown in Fig. 98-1 is removed for some reason, be sure replace it to the original position and same appearance as berore.

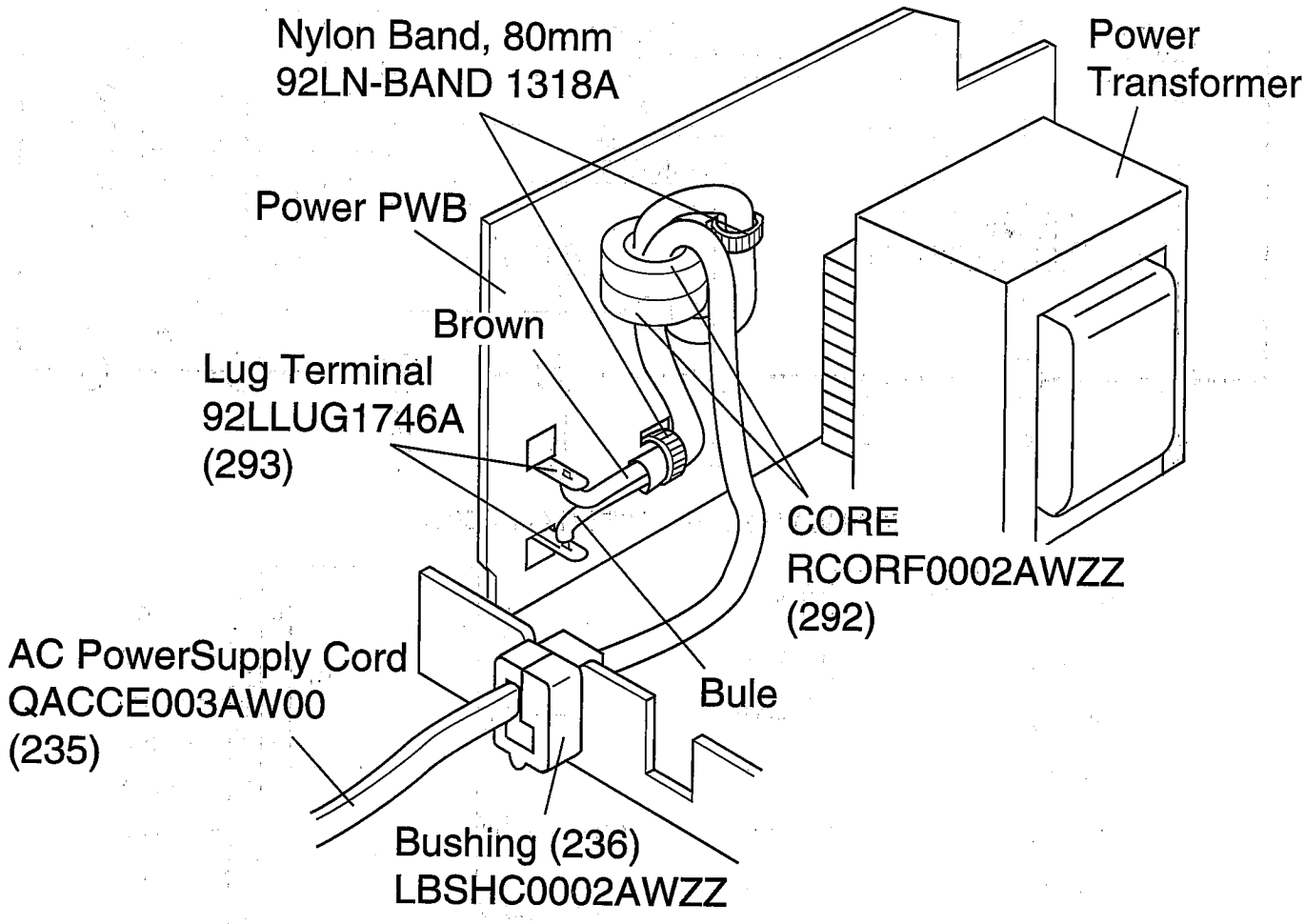


Figure 98-1

SHARP PARTS GUIDE

MODEL MD-X3H

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. No.
3. PART NO.
4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC ..... Ceramic type
VCK ..... Ceramic type
VCT ..... Semiconductor type
VC • • MF ..... Cylindrical type (without lead wire)
VC • • MN ..... Cylindrical type (without lead wire)
VC • • TV ..... Square type (without lead wire)
VC • • TQ ..... Square type (without lead wire)
VC • • CY ..... Square type (without lead wire)
VC • • CZ ..... Square type (without lead wire)
VC • • • • • • • • • J .. The 13th character represents capacity difference.
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

Resistors

VRD ..... Carbon-film type
VRS ..... Carbon-film type
VRN ..... Metal-film type
VR • • MF ..... Cylindrical type (without lead wire)
VR • • MN ..... Cylindrical type (without lead wire)
VR • • TV ..... Square type (without lead wire)
VR • • TQ ..... Square type (without lead wire)
VR • • CY ..... Square type (without lead wire)
VR • • CZ ..... Square type (without lead wire)
VR • • • • • • • • • J .. The 13th character represents error.
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

NOTE:
Parts marked with "⚠" are important for maintaining the safety of the set.
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

MD-X3H

INTEGRATED CIRCUITS

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
IC2	VHITA2057N/-1	J	AQ	FM IF/FM MPX./AM IF,TA2057N
IC3	VHITC9216P/-1	J	AL	PLL,TC9216P
IC101	VHIM51167BFP1	J	AL	Equalizer Amp.,M51167BFP1
IC102	VHIBA3126N/-1	J	AF	Head Selector,BA3126N
IC202	VHIHA12134AF1	J	AK	Dolby NR,HA12134AF
IC302	VHIBU4066BCF1	J	AD	Mic/AUX Input Selector, BU4066BCF
IC351	VHINJM4558MF-	J	AE	Ope Amp.,NJM4558MF
IC401	VHIM62419FP-1	J	AX	Audio Processor,M62419FP
IC402	VHIBA4558F/-1	J	AD	Ope Amp.,BA4558F
IC403	VHIBU2092F/-1	J	AM	Input Selector BU2092F
IC451	VHINJM4558MF-	J	AE	Ope Amp.,NJM4558MF
IC452	VHINJM4558MF-	J	AE	Buffer Amp.,NJM4558MF
IC501	VHIM5278L56-1	J	AE	Voltage Regulator,M5278L56
IC503	VHIBA3935//-1	J	AN	Voltage Regulator,BA3935
IC561	VHIBA4560F/-1	J	AD	Headphone Amp.,BA4560F
IC581	VHIBA6218//-1	J	AH	Motor Control,BA6218
IC582	VHIBA6209N/-1	J	AK	Motor Control,BA6209N
IC601	VHISTK4185M-1	J	AY	Power Amp.,STK4185M
IC671	VHIBU2092F/-1	J	AM	Input Selector,BU2092F
IC700	VHIBA6396FP-1	J	AS	Focus/Tracking/Spin/Slide Driver,BA6396FP
IC750	VHIM62472FP-1	J	AV	Servo Control,M62472FP
IC800	VHIM65821FP-1	J	BA	Servo/Signal Control,M65821FP
IC901	RH-IX0154AWZZ	J	BG	System Microcomputer, IX0154AW
IC902	RH-IX0069AWZZ	J	BA	FL Driver,IX0069AW
IC903	VHIPST9127/-1	J	AG	Reset,PST9127
IC1101	VHIIR3R50//-1	J	AV	RF Signal Processor,IR3R50
IC1201	VHILR37644/-1	J	BH	ENDEC.LR37644
IC1202	RH-IX2474AFZZ	J	BF	4Mbit D-RAM,IX2474AF
IC1251	VHI74ACT02F-1	J	AF	Head Driver,74ACT02F
IC1301	VHILR376411-1	J	BL	ATRAC Companding,LR376411
IC1401	RH-IX2500AFZZ	J	AY	MD System Control Microcomputer,IX2500AF
IC1402	VHIS2900AFE-1	J	AC	E² PROM,S2900AFE
IC1403	VHIRH5RL35A-1	J	AE	Voltage Regulator,RH5RL35A
IC1405	VHITC7SH14F-1	J	AE	Inverter,TC7SH14F
IC1601	VHIBA6996FP-1	J	AP	5-CH Motor Driver,BA6996FP
IC1602,1603	VHINJM2115M-1	J	AE	Ope Amp.,NJM2115M
IC1701	VHITDA1309H-3	J	AX	A/D,D/A Converter,TDA1309H
IC1703	VHINJM2115M-1	J	AE	Equalizer Amp.,NJM2115M
IC1704,1705	VHITC7S66F/-1	J	AE	Analog Switch,TC7S66F
IC1801	VHIHA16114F-1	J	AM	Switching Regulator,HA16114F
IC1802	VHINJM2403M-1	J	AE	Compareter,NJM2403M
IC1803	VHINJM2115M-1	J	AE	Ope Amp.,NJM2115M
IC1903	VHITC7SH08F-1	J	AE	Invertor,TC7SH08F
IC1906	VHITC7ST08F-1	J	AE	Invertor,TC7ST08F
IC1907	VHITC9246F/-1	J	AM	Invertor,TC9246F
IC1908	VHI74VHC393F1	J	AK	Invertor,74VHC393F
IC1910	VHI74VHC00F-1	J	AE	Invertor,74VHC00F
IC1911	VHI74VHC74F-1	J	AE	Invertor,74VHC74F
IC1912	VHITC7W74F/-1	J	AE	Change Voltage,TC7W74F
ICA2	VHIBA15218N-1	J	AD	MD Record/Line Amp., BA15218N
ICA51	VHI7SH04F//-1	J	AH	Invertor,7SH04F
ICA101	VHISRS5250S-1	J	BL	SRS,SRS5250S
ICA102	VHIBU4052BC-1	J	AH	SRS Mode Selector, BU4052BC
ICA103	VHIBU2092//-1	J	AM	SRS Selector,BU2092
ICA104	VHIBU4066BCF1	J	AD	Input Selector,BU4066BCF

TRANSISTORS

Q21	VSDTC144EK/-1	J	AB	Digital,NPN,DTC144 EK
Q22	VS2SC380-O/-1	J	AC	Silicon,NPN,2SC380 O
Q23	VSDTC144EK/-1	J	AB	Digital,NPN,DTC144 EK
Q24	VSDTA114EK/-1	J	AB	Digital,PNP,DTA114 EK
Q41,42	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q71,72	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q76	VSDTA143ES/-1	J	AB	Digital,PNP,DTA143 ES
Q78	VSDTC114WS/-1	J	AB	Digital,NPN,DTC114 WS
Q101,102	VSDTC144EK/-1	J	AB	Digital,NPN,DTC144 EK
Q103,104	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q105	VS2SB561-C/-1	J	AC	Silicon,PNP,2SB561 C
Q106	VSDTA114YK/-1	J	AB	Digital,PNP,DTA114 YK
Q107	VSDTC144EK/-1	J	AB	Digital,NPN,DTC144 EK
Q108	VS2SB561-C/-1	J	AC	Silicon,PNP,2SB561 C
Q109	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q110	VS2SC2236-Y-1	J	AB	Silicon,NPN,2SC2236 Y
Q111,112	VSDTC143TK/-1	J	AB	Digital,NPN,DTC143 TK
Q201,202	VS2SK246GR/-1	J	AB	FET,2SK246 GR
Q231	VSDTC114YK/-1	J	AB	Digital,NPN,DTC114 YK
Q232	VSDTC114EK/-1	J	AB	Digital,NPN,DTC114 EK
Q233	VS2SB561-C/-1	J	AC	Silicon,PNP,2SB561 C
Q234	VSDTC114EK/-1	J	AB	Digital,NPN,DTC114 EK
Q235	VS2SB561-C/-1	J	AC	Silicon,PNP,2SB561 C
Q306	VSDTC144EK/-1	J	AB	Digital,NPN,DTC144 EK
Q308	VSDTA144EK/-1	J	AB	Digital,PNP,DTA144 EK
Q309,310	VSDTC363TK/-1	J	AC	Digital,NPN,DTC363 TK
Q311	VSDTA144EK/-1	J	AB	Digital,PNP,DTA144 EK
Q312	VSDTC144EK/-1	J	AB	Digital,NPN,DTC144 EK
Q313,314	VSDTC363TK/-1	J	AC	Digital,NPN,DTC363 TK
Q315	VSDTA144EK/-1	J	AB	Digital,PNP,DTA144 EK
Q401,402	VSDTA114EK/-1	J	AB	Digital,PNP,DTA114 EK
Q451,452	VSDTC363TK/-1	J	AC	Digital,NPN,DTC363 TK
Q453	VSDTA144EK/-1	J	AB	Digital,PNP,DTA144 EK
Q501~503	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q504	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q505	VSDTC114EK/-1	J	AB	Digital,NPN,DTC114 EK
Q506	VSDTA114EK/-1	J	AB	Digital,PNP,DTA114 EK
Q541	VS2SB1375Y/-1	J	AE	Silicon,PNP,2SB1375 Y
Q551	VS2SD2012//-1	J	AD	Silicon,NPN,2SD2012
Q552	VS2SB1375Y/-1	J	AE	Silicon,PNP,2SB1375 Y
Q581	VS2SB562-C/-1	J	AD	Silicon,PNP,2SB562 C
Q601,602	VS2SC1740SR-1	J	AB	Silicon,NPN,2SC1740 SR
Q603	VSDTC144ES/-1	J	AB	Digital,NPN,DTC144 ES
Q604	VS2SC1740SR-1	J	AB	Silicon,NPN,2SC1740 SR
Q605	VS2SA933SR/-1	J	AB	Silicon,PNP,2SA933 SR
Q606	VS2SC1740SR-1	J	AB	Silicon,NPN,2SC1740 SR
Q607	VS2SD468-C/-1	J	AD	Silicon,NPN,2SD468 C
Q608	VS2SC1740SR-1	J	AB	Silicon,NPN,2SC1740 SR
Q671,672	VSDTC114EK/-1	J	AB	Digital,NPN,DTC114 EK
Q673	VSDTC143TK/-1	J	AB	Digital,NPN,DTC143 TK
Q674	VSDTC144EK/-1	J	AB	Digital,NPN,DTC144 EK
Q676,677	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q678	VSDTA114EK/-1	J	AB	Digital,PNP,DTA114 EK
Q679	VSDTC144EK/-1	J	AB	Digital,NPN,DTC144 EK
Q701	VSDTA124ES/-1	J	AC	Digital,PNP,DTA124 ES
Q751	VS2SA1015GR-1	J	AB	Silicon,PNP,2SA1015 GR
Q1101	VS2SB1424R/-1	J	AC	Silicon,PNP,2SB1424 R
Q1251,1252	VS2SK1847//-1	J	AD	FET,2SK1847
Q1253,1254	VS2SK1473//-1	J	AF	FET,2SK1473
Q1451	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q1601	VS2SB1424R/-1	J	AC	Silicon,PNP,2SB1424 R
Q1701	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q1801	VS2SB1424R/-1	J	AC	Silicon,PNP,2SB1424 R
Q1803	VSDTA114YK/-1	J	AB	Digital,PNP,DTA114 YK
Q1804,1805	VSDTC144EK/-1	J	AB	Digital,NPN,DTC144 EK
Q1807	VS2SB1424R/-1	J	AC	Silicon,PNP,2SB1424 R
Q1808~1810	VS2SC2412KR-1	J	AB	Silicon,NPN,2SC2412 KR
Q1911	VS2SA1037KR-1	J	AB	Silicon,PNP,2SA1037 KR
Q1914,1915	VSDTC114YK/-1	J	AB	Digital,NPN,DTC114 YK
Q1916	VS2SA1037KR-1	J	AB	Silicon,PNP,2SA1037 KR
QA101	VS2SC2001-L-1	J	AB	Silicon,NPN,2SC2001 L

DIODES

D1~4	VHD1SS133//-1	J	AA	Silicon,1SS133
D6	VHD1SS133//-1	J	AA	Silicon,1SS133
D101	VHDDAP202K/-1	J	AB	Silicon,DAP202K
D201	VHD1SS133//-1	J	AA	Silicon,1SS133
D231	VHD1SS133//-1	J	AA	Silicon,1SS133
D301,302	VHD1SS133//-1	J	AA	Silicon,1SS133
D311	VHD1SS133//-1	J	AA	Silicon,1SS133
D325	VHD1SS133//-1	J	AA	Silicon,1SS133
D501,502	VHD1SS133//-1	J	AA	Silicon,1SS133
D504	VHD1SS133//-1	J	AA	Silicon,1SS133
D508	VHD1SS133//-1	J	AA	Silicon,1SS133
⚠ D541	VHDS4VB20//-1	J	AG	Rectifier,S4VB20
D542	VHD1SS133//-1	J	AA	Silicon,1SS133
⚠ D543~546	VHDRL204F//-1	J	AC	Silicon,RL204F
D547	VHDRL104///-1	J	AB	Silicon,RL104
D581	VHERD5R1JS2-1	J	AB	Zener,5.1V,RD5.1JS2
D601	VHD1SS133//-1	J	AA	Silicon,1SS133
D602	VHDRL104///-1	J	AB	Silicon,RL104
D603	VHD1SS133//-1	J	AA	Silicon,1SS133
D641	VHD1SS133//-1	J	AA	Silicon,1SS133
D651	VHD1SS133//-1	J	AA	Silicon,1SS133
D803	VHD1SS133//-1	J	AA	Silicon,1SS133
D904	VHDDAP202K/-1	J	AB	Silicon,DAP202K
D908~911	VHDDA119///-1	J	AA	Silicon,DA119
D1251,1252	VHDSB0209CP-1	J	AC	Silicon,SB0209CP

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
D1401	VHDDA204K//-1	J	AB	Silicon,DA204K
D1402	VHDSB00703Q-1	J	AB	Silicon,SB00703Q
D1701,1702	VHD1SS355//-1	J	AB	Silicon,1SS355
D1801,1802	VHDSB1005PC-1	J	AC	Silicon,SB1005PC
DA101	VHD1SS133//-1	J	AA	Silicon,1SS133
LED251	VHPSLR325MG-1	J	AE	LED,Green,SLR325MG
LED252	VHPSLR325VR-1	J	AE	LED,Red,SLR325VR
LED253~257	VHPSLR325MG-1	J	AE	LED,Green,SLR325MG
LED258~260	VHPSML010MT-1	J	AC	LED,Green,SML010MT
LED261	VHPSLR325VR-1	J	AE	LED,Red,SLR325VR
LED671	VHPSML010MT-1	J	AC	LED,Green,SML010MT
PH401	VHPI31535CD-1	J	AG	Phote Interrupter,I31535CD
PH581~583	VHPGP1S53V/-1	J	AE	Photo-interrupter,GP1S53V
VD1,2	VHCKV1236Z23F	J	AS	Variable Capacitance, KV1236Z23F
ZD71	VHEMTZJ5R1B-1	J	AC	Zener,5.1V,MTZJ5.1B
ZD391,392	VHEMTZJ7R5B-1	J	AA	Zener,7.5V,MTZJ7.5B
ZD401	VHEMTZJ8R2B-1	J	AC	Zener,8.2V,MTZJ8.2B
ZD501	VHEMTZJ8R2A-1	J	AA	Zener,8.2V,MTZJ8.2A
ZD503	VHEMTZJ6R2C-1	J	AC	Zener,6.2V,MTZJ6.2C
ZD504	VHEMTZJ130B-1	J	AC	Zener,13V,MTZJ13B
ZD505	VHEMTZJ5R1A-1	J	AB	Zener,5.1V,MTZJ5.1A
ZD506	VHEMTZJ130A-1	J	AC	Zener,13V,MTZJ13A
ZD541	VHEMTZJ330D-1	J	AB	Zener,33V,MTZJ33D
ZD542	VHEMTZJ6R2C-1	J	AC	Zener,6.2V,MTZJ6.2C
ZD551,552	VHEMTZJ160A-1	J	AA	Zener,16V,MTZJ16A

FILTERS

CF1,2	RFILF0072AFZZ	J	AG	FM IF
CF3	92LFILTA-1585A	J	AH	AM IF
CF22	92LCRSTL1756C	J	AF	VCO

TRANSFORMER

⚠T541	RTRNP0109AWZZ	J	BL	Power

COILS

L1	RCILA1064AFZZ	J	AD	AM Antenna
L2	RCILB1074AFZZ	J	AC	AM OSC
L5	RBLN-0051AFZZ	J	AE	Balun
L21	RCILI0312AFZZ	J	AC	FM Detector
L22	92LFILT-1432A	J		Low Pass Filter
L41	VP-DH470K0000	J	AB	47 µH,Choke
L71	VP-DH101K0000	J	AB	100 µH,Choke
L72	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L91,92	RCILZ0200AFZZ	J	AF	Multiplex Filter
L101	VP-MK331K0000	J	AB	330 µH,Choke
L201,202	RCILC0094AFZZ	J	AD	6.8 mH
L231	VP-YF470K0000	J	AB	47 µH,Choke
L401	VP-DH101K0000	J	AB	100 µH,Choke
L561~563	VP-XH2R2K0000	J	AB	2.2 µH,Choke
L661,662	RCILZ0137AFZZ	J	AA	0.29 µH
L901	VP-MK220K0000	J	AB	22 µH,Choke
L902	VP-MK4R7K0000	J	AA	4.7 µH,Choke
L903,904	VP-MK470K0000	J	AB	47 µH,Choke
L1101	VPANMR47K0000	J	AD	0.47 µH
L1201	VPANMR47K0000	J	AD	0.47 µH
L1203	VPANMR47K0000	J	AD	0.47 µH
L1251	VPANMR47K0000	J	AD	0.47 µH
L1301	VPANMR47K0000	J	AD	0.47 µH
L1701,1702	VP-1M4R7J0000	J	AD	4.7 µH
L1801	RCILR0567AFZZ	J	AE	4.7 µH
L1802	RCILR0568AFZZ	J	AE	68 µH
L1950	RCILZ0279AFZZ	J	AE	1 µH
L1960	VPANM1R0J0000	J	AC	1 µH
LA51,52	VP-DH100K0000	J	AB	10 µH,Choke

VARIABLE RESISTORS

VR101	RVR-M1001AFZZ	J	AC	22 kohms (B),Semi-VR [L-ch Bias]
VR102	RVR-M1001AFZZ	J	AC	22 kohms (B),Semi-VR [R-ch Bias]
VR201	RVR-M1001AFZZ	J	AC	22 kohms (B),Semi-VR [L-ch P.B.Amp.,Sens.]
VR202	RVR-M1001AFZZ	J	AC	22 kohms (B),Semi-VR [R-ch P.B.Amp.,Sens.]
VR203	92LVR-S473NB-M	J	AC	47 kohms (B),Semi-VR [L-ch Rec.Amp.,Sens.]
VR204	92LVR-S473NB-M	J	AC	47 kohms (B),Semi-VR [R-ch Rec.Amp.,Sens.]
VR251	QSW-Z0001AWZZ	J	AN	[Jog Dial]
VR301	RVR-B0009AWZZ	J	AM	20 kohm (B),Semi-VR [AUX Level]
VR751	RVR-M0588AFZZ	J	AB	22 kohms (B),Semi-VR [Tracking Error Balance]
VR752	RVR-M0586AFZZ	J	AB	10 kohm (B),Semi-VR [Tracking Gain]
VR753	RVR-M0590AFZZ	J	AB	47 kohms (B),Semi-VR [Focus Offset]
VR754	RVR-M0590AFZZ	J	AB	47 kohms (B),Semi-VR [Tracking Offset]
VR1110	RVR-M1105AFZZ	J	AB	68 kohms (B),Semi-VR [Focus Error Balance]

VIBRATORS

X41	92LCRSTL1587B	J	AK	Crystal,4.5 MHz
X801	92LCRSTL1469AT	J	AL	Crystal,8.4672 MHz
X901	RCRM-0012AWZZ	J	AF	Ceramic,4.19 MHz
X902	RCRSP0051AFZZ	J	AK	Crystal,32.768 kHz
XL1201	RCRSB0309AFZZ	J	AK	Crystal,33.8688 MHz

THERMISTOR

⚠TH651	VHHZPP221E/-1	J	AK	Posistor

CAPACITORS

C1,2	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C11	VCCUMN1HJ180J	J	AA	18 pF (UJ),50V
C12	VCCCMN1HH180J	J	AA	18 pF (CH),50V
C13	VCKYMN1HB101K	J	AA	100 pF,50V
C14	VCKYPA1HB471K	J	AA	470 pF,50V
C15	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C18	VCCUMN1HJ8R2D	J	AA	8.2 pF (UJ),50V
C20	VCTYPA1EX473K	J	AA	0.047 µF,25V
C21	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C22	VCCCMN1HH220J	J	AA	22 pF (CH),50V
C23~25	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C26	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C27	VCCSMN1HL330J	J	AA	33 pF,50V
C28	VCKYMN1HB101K	J	AA	100 pF,50V
C29	VCKYMN1HB331K	J	AA	330 pF,50V
C30	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C31	VCTYMN0JY223N	J	AA	0.022 µF,6.3V
C32	VCFYDA1HA823J	J	AB	0.082 µF,50V,Polyester
C33	VCFYDA1HA683J	J	AB	0.068 µF,50V,Polyester
C34	VCFYDA1HA823J	J	AB	0.082 µF,50V,Polyester
C35,36	VCTYPA1CX183K	J	AA	0.018 µF,16V
C37,38	RC-GZA224AF1H	J	AA	0.22 µF,50V,Electrolytic
C39	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C40	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C41	VCTYMN1CY103M	J	AA	0.01 µF,16V
C42	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic
C47	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C48	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C49	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C50	VCTYMN1CX222K	J	AA	0.0022 µF,16V
C51	VCKYMN1HB221K	J	AA	220 pF,50V
C52	VCTYMN1CX222K	J	AA	0.0022 µF,16V
C53	VCCCMN1HH120J	J	AA	12 pF (CH),50V
C54	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C55	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C56	VCKYMN1HB102K	J	AA	0.001 µF,50V
C57	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C58	VCKYMN1HB102K	J	AA	0.001 µF,50V
C59	VCKYMN1HB331K	J	AA	330 pF,50V
C73	RC-GZA107AF0J	J	AB	100 µF,6.3V,Electrolytic
C74	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C76	RC-GZA226AF1C	J	AB	22 µF,16V,Electrolytic
C77	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C80	VCKYPA1HB221K	J	AA	220 pF,50V
C81	VCKYTV1HB391K	J	AA	390 pF,50V
C82	VCKYPA1HB221K	J	AA	220 pF,50V
C83~85	VCKYMN1HB101K	J	AA	100 pF,50V
C86,87	VCCSBT1HL560J	J	AA	56 pF,50V
C93	VCTYPA1CX562K	J	AA	0.0056 µF,16V
C94	VCTYMN1CX562K	J	AA	0.0056 µF,16V
C101,102	VCKYMN1HB561K	J	AA	560 pF,50V
C103,104	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic

MD-X3H

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C105,106	VCTYPA1CX333K	J	AA	0.033 µF,16V
C107,108	RC-GZA224AF1H	J	AA	0.22 µF,50V,Electrolytic
C109~112	VCKYMN1HB271K	J	AA	270 pF,50V
C113,114	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C115,116	VCKYMN1HB102K	J	AA	0.001 µF,50V
C117,118	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C119,120	VCTYMN1CX332K	J	AA	0.0033 µF,16V
C121,122	VCKYMN1HB471J	J	AB	470 pF,50V
C123,124	VCKYMN1HB181J	J	AA	180 pF,50V
C125,126	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C128	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic
C129	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C130	RC-GZA336AF1A	J	AB	33 µF,10V,Electrolytic
C131,132	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic
C135,136	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C137	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C138	RC-QZA473AFYJ	J	AB	0.047 µF,50V,Mylar
C139	VCTYPA1EX333K	J	AA	0.033 µF,25V
C140	VCQPKA2AA822J	J	AA	0.0082 µF,100V,Polypropylene
C141	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C142	VCCSPA1HL561J	J	AA	560 pF,50V
C143	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C145,146	VCKYMN1HB331K	J	AA	330 pF,50V
C147,148	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C151	VCKYTV1EF474Z	J	AA	0.47 µF,25V
C201,202	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C203,204	VCKYMN1HB221K	J	AA	220 pF,50V
C205,206	VCKYMN1HB331K	J	AA	330 pF,50V
C207,208	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C209~212	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C213,214	RC-GZA224AF1H	J	AA	0.22 µF,50V,Electrolytic
C215,216	VCTYPA1CX823K	J	AB	0.082 µF,16V
C217,218	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C219	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic
C220	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C221	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C222	RC-GZA224AF1H	J	AA	0.22 µF,50V,Electrolytic
C223,224	VCKYMN1HB391K	J	AA	390 pF,50V
C231	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C232	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C251	VCCSPA1HL101J	J	AA	100 pF,50V
C252	VCCSPA1HL331J	J	AA	330 pF,50V
C301,302	VCKYMN1HB101K	J	AA	100 pF,50V
C303,304	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C305,306	VCKYMN1HB101K	J	AA	100 pF,50V
C307	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C309,310	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C311,312	VCKYMN1HB221K	J	AA	220 pF,50V
C321,322	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C325	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C351,352	VCCSMN1HL470J	J	AA	47 pF,50V
C355,356	VCCSMN1HL470J	J	AA	47 pF,50V
C357,358	RC-GZA476AF1V	J	AB	47 µF,35V,Electrolytic
C365,366	VCKYTV1HB393K	J	AB	0.039 µF,50V
C377,378	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C393,394	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C401,402	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C407,408	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C409,410	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C411,412	VCKYTV1HB472K	J	AA	0.0047 µF,50V
C413,414	VCKYTV1CB104K	J	AA	0.1 µF,16V
C415,416	VCKYTV1HB472K	J	AA	0.0047 µF,50V
C417~430	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C431	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C432	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C433	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C434	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C436	VCKYTV1EF104Z	J	AA	0.1 µF,25V
C437	VCCSTV1HL331J	J	AA	330 pF,50V
C438	VCKYTV1HB391K	J	AA	390 pF,50V
C439,440	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C441	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C442	VCKYTV1HB101K	J	AA	100 pF,50V
C443,444	VCKYTV1HB151K	J	AC	150 pF,50V
C463,464	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C467,468	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C469,470	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C471,472	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C473,474	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C501	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C502	VCKYTV1EF473Z	J	AB	0.047 µF,25V
C503	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C504,505	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C506	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C507	RC-GZA106AF1E	J	AA	10 µF,25V,Electrolytic
C508	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C509	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C510	RC-EZ0001AWZZ	J	AK	0.22 µF,5.5V,Electrolytic
C511	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic
C512	RC-GZA104AF1H	J	AB	0.1 µF,50V,Electrolytic
C513	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C515	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C516	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C517	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C518	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C519	RC-GZA227AF1A	J	AB	220 µF,10V,Electrolytic
C520	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C521	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
C522	RC-GZA227AF1E	J	AB	220 µF,25V,Electrolytic
C523	RC-GZA107AF1E	J	AB	100 µF,25V,Electrolytic
C524	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C525	RC-GZA476AF1E	J	AB	47 µF,25V,Electrolytic
C527~530	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C531,532	RC-EZ1632AFZZ	J	AL	4700 µF,50V,Electrolytic
C533	92LCEU25W6800M	J	AP	6800 µF,25V,Electrolytic
C541~545	VCFYHA1HA104J	J	AB	0.1 µF,50V,Thin Film
C546	RC-GZV227AF1H	J	AC	220 µF,50V,Electrolytic
C547~549	RC-GZA476AF1H	J	AB	47 µF,50V,Electrolytic
C551,552	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C553,554	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C561,562	RC-GZA476AF1C	J	AB	47 µF,16V,Electrolytic
C565,566	VCKYMN1HB151K	J	AA	150 pF,50V
C567,568	VCKYMN1HB331K	J	AA	330 pF,50V
C569,570	RC-GZA105AF1H	J	AB	1 µF,50V,Electrolytic
C571~575	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C581	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C582	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C584	VCKYPA1HF473Z	J	AB	0.047 µF,50V
C586	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C590	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C591	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C592	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C593	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C595	VCTYPA1CX103K	J	AA	0.01 µF,16V
C596	VCKYPA1HF223Z	J	AB	0.022 µF,50V
C606	RC-GZA336AF1H	J	AB	33 µF,50V,Electrolytic
C607,608	RC-GZA475AF1H	J	AB	4.7 µF,50V,Electrolytic
C609,610	VCKYPA1HB221K	J	AA	220 pF,50V
C611,612	VCCSPA1HL470J	J	AA	47 pF,50V
C613,614	VCCSPA1HL150J	J	AA	15 pF,50V
C615,616	RC-GZA476AF1V	J	AB	47 µF,35V,Electrolytic
C617	RC-GZA476AF1H	J	AB	47 µF,50V,Electrolytic
C618	VCFYDA1HA104J	J	AB	0.1 µF,50V,Polyester
C619	VCTYPA1CX223K	J	AA	0.022 µF,16V
C620	VCE9GA1VW476M	J	AF	47 µF,35V,Electrolytic,Non-Polar
C621	RC-GZA476AF1H	J	AB	47 µF,50V,Electrolytic
C622	RC-GZA106AF2A	J	AB	10 µF,100V,Electrolytic
C624	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C626,627	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C628	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
C629,630	RC-QZA473AFYK	J	AB	0.047 µF,50V,Mylar
C631~634	RC-QZA104AFYJ	J	AC	0.1 µF,50V,Mylar
C635	VCTYBT1EF223Z	J	AA	0.022 µF,25V
C647	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C651	VCE9GA1CW106M	J	AD	10 µF,16V,Electrolytic,Non-Polar
C652	RC-GZA106AF1H	J	AB	10 µF,50V,Electrolytic
C661~668	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C669~672	VCKYPA1HB102K	J	AA	0.001 µF,50V
C670	VCKRTV1CR104K	J	AA	0.1 µF,16V
C671	VCKYTV1HB471K	J	AA	470 pF,50V
C672,673	VCKYTV1HB391K	J	AA	390 pF,50V
C701	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C702	VCFYDA1HA104J	J	AB	0.1 µF,50V,Polyester
C703,704	VCTYMN0JY223N	J	AA	0.022 µF,6.3V
C750	VCFYDA1HA104J	J	AB	0.1 µF,50V,Polyester
C751,752	VCKYMN1HB121K	J	AA	120 pF,50V
C753	VCFYDA1HA104J	J	AB	0.1 µF,50V,Polyester
C754	VCTYMN1CX332K	J	AA	0.0033 µF,16V
C757	VCFYDA1HA154J	J	AB	0.15 µF,50V,Polyester
C758	VCFYDA1HA334J	J	AC	0.33 µF,50V,Polyester
C759	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C760	VCTYPA1CX104K	J	AB	0.1 µF,16V
C761	VCTYPA1CX223K	J	AA	0.022 µF,16V
C762	VCTYPA1CX104K	J	AB	0.1 µF,16V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C763	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C764	VCFYDA1HA104J	J	AB	0.1 µF,50V,Polyester
C765	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C766	VCFYDA1HA104J	J	AB	0.1 µF,50V,Polyester
C767	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
C769	RC-GZA226AF1C	J	AB	22 µF,16V,Electrolytic
C770	VCFYDA1HA104J	J	AB	0.1 µF,50V,Polyester
C771	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
C772	VCTYPA1CX683K	J	AA	0.068 µF,16V
C773	VCTYPA1CX333K	J	AA	0.033 µF,16V
C774	VCKYMN1HB102K	J	AA	0.001 µF,50V
C775	VCCSMN1HL5R6D	J	AA	5.6 pF,50V
C777	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
C779	VCTYMN1CY822K	J	AA	0.0082 µF,16V
C783	VCKYMN1HB102K	J	AA	0.001 µF,50V
C800	VCTYMN1CX222K	J	AA	0.0022 µF,16V
C801	VCFYDA1HA105J	J	AD	1 µF,50V
C802	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C803	VCKYMN1HB271K	J	AA	270 pF,50V
C804	VCKYMN1HB471K	J	AA	470 pF,50V
C805	VCFYDA1HA564J	J	AE	0.56 µF,50V,Thin Film
C806	VCKYMN1HB102K	J	AA	0.001 µF,50V
C807	VCTYPA1CX223K	J	AA	0.022 µF,16V
C808	VCFYDA1HA104J	J	AB	0.1 µF,50V,Polyester
C809	RC-GZA476AF1A	J	AB	47 µF,10V,Electrolytic
C810	VCCSMN1HL100J	J	AA	10 pF,50V
C815,816	VCCCMN1HH220J	J	AA	22 pF (CH),50V
C820	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
C822	VCTYPA1EX103K	J	AA	0.01 µF,25V
C901	VCCSTV1HL331J	J	AA	330 pF,50V
C902,903	VCCCTV1HH560J	J	AA	56 pF (CH),50V
C905	VCCCTV1HH560J	J	AA	56 pF (CH),50V
C906	VCCCTV1HH330J	J	AA	33 pF (CH),50V
C907~911	RC-EZD105AF1H	J	AB	1 µF,50V,Electrolytic
C912	VCKYTQ1HF104Z	J	AB	0.1 µF,50V
C913	VCKYTV1CF105Z	J	AB	1 µF,16V
C914	VCKYTQ1HF104Z	J	AB	0.1 µF,50V
C915	VCCSTV1HL331J	J	AA	330 pF,50V
C916	VCCCTV1HH330J	J	AA	33 pF (CH),50V
C917	VCCCTV1HH120J	J	AA	12 pF (CH),50V
C918,919	VCKYTV1EF104Z	J	AA	0.1 µF,25V
C920,921	VCKYTV1HB561K	J	AA	560 pF,50V
C922	VCCCTV1HH270J	J	AA	27 pF (CH),50V
C923	RC-EZD106AF1C	J	AB	10 µF,16V,Electrolytic
C924	RC-EZD105AF1H	J	AB	1 µF,50V,Electrolytic
C925~928	VCKYTV1HB101K	J	AA	100 pF,50V
C942	VCKYTQ1CF105Z	J	AC	1 µF,16V
C943,944	VCCSTV1HL101J	J	AA	100 pF,50V
C1100,1101	VCKYTV1CF105Z	J	AB	1 µF,16V
C1104	VCCCCY1HH3R0C	J	AA	3 pF (CH),50V
C1105	VCCCCY1HH221J	J	AA	220 pF (CH),50V
C1108,1109	VCCCCY1HH8R0D	J	AA	8 pF (CH),50V
C1110	VCKYTQ1CF225Z	J	AB	2.2 µF,16V
C1111	VCKYTQ1CB474K	J	AC	0.47 µF,16V
C1112	VCKYTQ1CF225Z	J	AB	2.2 µF,16V
C1114,1115	VCCCCY1HH120J	J	AA	12 pF (CH),50V
C1120	VCKYTQ1CF225Z	J	AB	2.2 µF,16V
C1122	VCKYTQ1CB105K	J	AD	1 µF,16V
C1123	VCKYCY1CB223K	J	AA	0.022 µF,16V
C1124	VCKYTQ1CF225Z	J	AB	2.2 µF,16V
C1125	VCCCCY1HH221J	J	AA	220 pF (CH),50V
C1126	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C1127	VCKYTV1CF105Z	J	AB	1 µF,16V
C1128	VCKYCY1HB391K	J	AA	390 pF,50V
C1129	VCKYCY1HB331K	J	AA	330 pF,50V
C1130	VCKYCY1HB332K	J	AA	0.0033 µF,50V
C1131	VCKYCY1HB331K	J	AA	330 pF,50V
C1132,1133	VCKYTQ1CB105K	J	AD	1 µF,16V
C1134,1135	VCKYCY1CB223K	J	AA	0.022 µF,16V
C1136,1137	VCKYCY1HB682K	J	AA	0.0068 µF,50V
C1138	VCCCCY1HH100D	J	AA	10 pF (CH),50V
C1139	VCKYTV1CB104K	J	AA	0.1 µF,16V
C1140	VCKYTQ1CB105K	J	AD	1 µF,16V
C1141	VCKYTQ1CF225Z	J	AB	2.2 µF,16V
C1142,1143	VCKYTQ1CB105K	J	AD	1 µF,16V
C1144	VCCCCY1HH6R0C	J	AA	6 pF (CH),50V
C1145	VCKYCY1CB333K	J	AA	0.033 µF,16V
C1146	VCKYTQ1CB105K	J	AD	1 µF,16V
C1147	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1148	VCCCCY1HH2R0C	J	AA	2 pF (CH),50V
C1201	VCCCCY1HH330J	J	AA	33 pF (CH),50V
C1202	VCKYTV1CB474K	J	AC	0.47 µF,16V

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C1203	VCKYTV1CF105Z	J	AB	1 µF,16V
C1204,1205	VCCCCY1HH120J	J	AA	12 pF (CH),50V
C1206	VCKYTV1CF105Z	J	AB	1 µF,16V
C1209,1210	VCKYTV1CB474K	J	AC	0.47 µF,16V
C1211	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C1213	VCCCCY1HH470J	J	AA	47 pF (CH),50V
C1214	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C1216	VCCCCY1HH470J	J	AA	47 pF (CH),50V
C1219	VCCCCY1HH470J	J	AA	47 pF (CH),50V
C1251	VCKYCY1CB273K	J	AA	0.027 µF,16V
C1252	VCCCTV1HH121J	J	AA	120 pF (CH),50V
C1253~1255	VCKYTQ1CF225Z	J	AB	2.2 µF,16V
C1301	VCKYTV1CF105Z	J	AB	1 µF,16V
C1302~1304	VCKYTV1CB474K	J	AC	0.47 µF,16V
C1305	VCKYTV1EF104Z	J	AA	0.1 µF,25V
C1306	VCCCCY1HH330J	J	AA	33 pF (CH),50V
C1401	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1403	VCCCCY1HH100D	J	AA	10 pF (CH),50V
C1404	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1405	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C1406	VCKYTV1CF105Z	J	AB	1 µF,16V
C1407,1408	VCKYTQ1CF225Z	J	AB	2.2 µF,16V
C1421~1424	VCKYCY1CB223K	J	AA	0.022 µF,16V
C1460	VCKYTV1CF105Z	J	AB	1 µF,16V
C1601	VCKYTV1CF105Z	J	AB	1 µF,16V
C1602	VCCCCY1HH221J	J	AA	220 pF (CH),50V
C1604	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1605	VCEAPS106AF1C	J	AB	10 µF,16V,Electrolytic
C1650,1651	VCKYCY1HB332K	J	AA	0.0033 µF,50V
C1652,1653	VCKYCY1HB272K	J	AA	0.0027 µF,50V
C1654,1655	VCKYCY1HB472K	J	AA	0.0047 µF,50V
C1656,1657	VCKYCY1HB562K	J	AA	0.0056 µF,50V
C1658,1659	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C1661	VCEAPS107AF1A	J	AD	160 pF,10V,Electrolytic
C1700	VCKYTQ1CF225Z	J	AB	2.2 µF,16V
C1701	VCKYTV1CF105Z	J	AB	1 µF,16V
C1702	VCKYTV1CF224Z	J	AB	0.22 µF,16V
C1703	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1704,1705	VCCCCY1HH181J	J	AA	180 pF (CH),50V
C1706,1707	VCEAPS226AF0G	J	AC	22 µF,4V,Electrolytic
C1708	VCKYTV1CF224Z	J	AB	0.22 µF,16V
C1709	VCKYCY1CB223K	J	AA	0.022 µF,16V
C1710	VCEAPS226AF0G	J	AC	22 µF,4V,Electrolytic
C1711	VCKYTV1CF224Z	J	AB	0.22 µF,16V
C1716,1717	VCKYTV1CF224Z	J	AB	0.22 µF,16V
C1718	VCEAPS226AF0G	J	AC	22 µF,4V,Electrolytic
C1722	VCCCCY1HH221J	J	AA	220 pF (CH),50V
C1724	VCCCCY1HH221J	J	AA	220 pF (CH),50V
C1728,1729	VCCCCY1HH221J	J	AA	220 pF (CH),50V
C1730	VCKYTV1CF474Z	J	AB	0.47 µF,16V
C1731,1732	VCEAPS226AF0G	J	AC	22 µF,4V,Electrolytic
C1735	VCCSCY1HL821J	J	AA	820 pF,50V
C1736,1737	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C1738	VCCSCY1HL821J	J	AA	820 pF,50V
C1741	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C1742,1743	VCEAPS476AF0G	J	AC	47 µF,4V,Electrolytic
C1755,1756	VCKYCY1HB391K	J	AA	390 pF,50V
C1804	VCKYCY1HB102K	J	AA	1000 pF,50V
C1805	RC-EZ1623AFZZ	J	AF	22 µF,10V,Electrolytic
C1808	VCEAPS107AF1C	J	AC	160 pF,16V,Electrolytic
C1809	VCKYTV1CF105Z	J	AB	1 µF,16V
C1810	VCKYCY1HB222K	J	AA	0.0022 µF,50V
C1811	VCCCCY1HH221G	J	AB	220 pF (CH),50V
C1819	RC-EZ1614AFZZ	J	AE	33 µF,6.3V,Electrolytic
C1820	VCKYCY1HB152K	J	AA	0.0015 µF,50V
C1825	VCKYTV1EF104Z	J	AA	0.1 µF,25V
C1826	VCKYTV1CB474K	J	AC	0.47 µF,16V
C1827	VCKYTV1CF474Z	J	AB	0.47 µF,16V
C1828	VCKYCY1HB272K	J	AA	0.0027 µF,50V
C1829	VCKYTV1EF104Z	J	AA	0.1 µF,25V
C1830	VCEAPS226AF0G	J	AC	22 µF,4V,Electrolytic
C1831	VCKYTV1CF105Z	J	AB	1 µF,16V
C1832	VCCCCY1HH221J	J	AA	220 pF (CH),50V
C1833	VCKYCY1HB272K	J	AA	0.0027 µF,50V
C1834	RC-EZ1634AFZZ	J	AF	15 µF,16V,Electrolytic
C1835	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C1836	VCCCCY1HH680J	J	AA	68 pF (CH),50V
C1837	VCKYTV1CF105Z	J	AB	1 µF,16V
C1901	VCKYTQ1CB334K	J	AC	0.33 µF,16V
C1913	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C1915,1916	VCKYCY1HB102K	J	AA	0.001 µF,50V
C1927	VCKYCY1CB473K	J	AA	0.047 µF,16V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C1931	VCKYTV1CF105Z	J	AB	1 µF,16V
C1951	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1952	VCKYCY1CB103K	J	AA	0.01 µF,16V
C1953	VCKYTV1CB474K	J	AC	0.47 µF,16V
C1954	VCCCCY1HH150J	J	AA	15 pF (CH),50V
C1955	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1956	VCEAPS476AF0J	J	AC	47 µF,6.3V,Electrolytic
C1957	VCEAPS107AF0J	J	AC	100 µF,6.3V,Electrolytic
C1958	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1959	VCKYCY1EF104Z	J	AA	0.1 µF,25V
C1961,1962	VCKYCY1CB473K	J	AA	0.047 µF,16V
C1963	VCCCCY1HH470J	J	AA	47 pF (CH),50V
C1964	VCKYCY1HB102K	J	AA	0.001 µF,50V
C1966	VCKYCY1HB391K	J	AA	390 pF,50V
CA21,22	RC-GZA106AF1C	J	AB	10 µF,16V,Electrolytic
CA23,24	VCKYMN1HB101K	J	AA	100 pF,50V
CA25	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
CA27	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
CA29,30	RC-GZA475AF1E	J	AB	4.7 µF,25V,Electrolytic
CA41,42	VCKYMN1HB271K	J	AA	270 pF,50V
CA51,52	VCKYTV1CB224K	J	AB	0.22 µF,16V
CA53	VCTYMN1CX332K	J	AA	0.0033 µF,16V
CA54	RC-GZA107AF1A	J	AB	100 µF,10V,Electrolytic
CA55	VCKYTV1CB224K	J	AB	0.22 µF,16V
CA57	VCTYMN1CX332K	J	AA	0.0033 µF,16V
CA58	VCKYTV1EF104Z	J	AA	0.1 µF,25V
CA59	VCKYTV1HB391K	J	AA	390 pF,50V
CA103,104	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
CA105	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
CA106	RC-GZA337AF1C	J	AC	330 µF,16V,Electrolytic
CA107	VCKZPA1HF223Z	J	AA	0.022 µF,50V
CA108	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
CA109	VCTYPU1CX472K	J	AA	0.0047 µF,16V
CA110	RC-QZA224AFYJ	J	AB	0.22 µF,50V,Mylar
CA111	RC-QZA683AFYJ	J	AB	0.068 µF,50V,Mylar
CA112	RC-QZA223AFYJ	J	AB	0.022 µF,50V,Mylar
CA113	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
CA114	RC-QZA682AFYJ	J	AA	0.0068 µF,50V,Mylar
CA115	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
CA116	RC-QZA182AFYJ	J	AB	0.0018 µF,50V,Mylar
CA117	RC-QZA224AFYJ	J	AB	0.22 µF,50V,Mylar
CA118	VCCSPA1HL331J	J	AA	330 pF,50V
CA119	RC-GZA107AF1C	J	AB	100 µF,16V,Electrolytic
CA120	RC-GZA334AF1H	J	AA	0.33 µF,50V,Electrolytic
CA121,122	RC-GZA474AF1H	J	AA	0.47 µF,50V,Electrolytic
CA123	RC-QZA224AFYJ	J	AB	0.22 µF,50V,Mylar
CA124	VCKZPA1HF223Z	J	AA	0.022 µF,50V
CA125,126	RC-GZA225AF1H	J	AB	2.2 µF,50V,Electrolytic
CA128	VCKZPA1HF223Z	J	AA	0.022 µF,50V
CA129,130	VCKYPA1HB151K	J	AA	150 pF,50V
CA131	VCKYPA1HB391K	J	AA	390 pF,50V
CA132	VCKZPA1HF223Z	J	AA	0.022 µF,50V
CA133,134	RC-GZA475AF1H	J	AB	4.7 µF,50V,Electrolytic

RESISTORS

	VRD-MN2BD000C	J	AA	0 ohm,Jumper,ø1.4x3.5mm,Ivory
	VRD-SA2CDR0RJ	J	AA	0 ohm,Jumper,ø1.9x3.4mm,Red
	VRD-SA2CD0R0J	J	AB	0 ohm,Jumper,ø1.9x3.4mm,Red
	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8x1.55mm, Green
	VRS-TQ2BB000J	J	AA	0 ohm,Jumper,1.55x3.1mm, Green
	VRS-TV2AB000J	J	AA	0 ohm,Jumper,1.25x2mm,Green
⚠FR551,552	VRG-ST2EF560J	J	AB	56 ohms,1/4W,Fusible
⚠FR601,602	VRG-ST2EC101J	J	AB	100 ohm,1/4W,Fusible
⚠FR603	VRG-ST2EC100J	J	AB	10 ohm,1/4W,Fusible
R7	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R9	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R12	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R14	VRD-MN2BD331J	J	AA	330 ohms,1/8W
R15	VRD-MN2BD560J	J	AA	56 ohms,1/8W
R16	VRD-MN2BD681J	J	AA	680 ohms,1/8W
R20	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R24	VRD-ST2CD273J	J	AA	27 kohms,1/6W
R25	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R27	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R28	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R30	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R31	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R33,34	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R35,36	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R37	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R38	VRD-ST2CD331J	J	AA	330 ohms,1/6W
R39	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R40	VRD-ST2CD683J	J	AA	68 kohms,1/6W
R45	VRD-MN2BD471J	J	AA	470 ohms,1/8W
R47	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R48	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R49	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R50	VRD-MN2BD184J	J	AA	180 kohms,1/8W
R51~54	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R55	VRD-ST2CD181J	J	AA	180 ohms,1/6W
R56	VRD-ST2CD100J	J	AA	10 ohm,1/6W
R58	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R59	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R63	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R64	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R69	VRD-ST2CD682J	J	AA	6.8 kohms,1/6W
R71,72	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R73	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R74	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R75	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R76,77	VRD-ST2EE391J	J	AA	390 ohms,1/4W
R91	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R92	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R95	VRD-ST2EE220J	J	AA	22 ohms,1/4W
R101,102	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R103	VRD-MN2BD390J	J	AA	39 ohms,1/8W
R104	VRS-TV2AB390J	J	AA	39 ohms,1/10W
R105,106	VRS-TV2AB682J	J	AA	6.8 kohms,1/10W
R107,108	VRS-TV2AB392J	J	AA	3.9 kohms,1/10W
R109	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R110	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R111,112	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R113,114	VRS-TV2AB225J	J	AA	2.2 Mohms,1/10W
R115,116	VRS-TV2AB105J	J	AA	1 Mohm,1/10W
R117,118	VRS-TV2AB182J	J	AA	1.8 kohms,1/10W
R119	VRS-TV2AB124J	J	AA	120 kohms,1/10W
R120	VRD-MN2BD124J	J	AA	120 kohms,1/8W
R121,122	VRS-TV2AB153J	J	AA	15 kohms,1/10W
R123	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R124	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R125	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R126	VRD-MN2BD474J	J	AA	470 kohms,1/8W
R127	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R128	VRD-MN2BD105J	J	AA	1 Mohm,1/8W
R129	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R130	VRS-TV2AB822J	J	AA	8.2 kohms,1/10W
R131	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R132	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R133	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R134	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R135,136	VRS-TV2AB100J	J	AA	10 ohm,1/10W
R137	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R138	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R141	VRS-TV2AB104J	J	AA	100 kohm,1/10W
R142	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R143	VRD-MN2BD563J	J	AA	56 kohms,1/8W
R144	VRS-TV2AB153J	J	AA	15 kohms,1/10W
R145,146	VRD-ST2CD221J	J	AA	220 ohms,1/6W
R147,148	VRD-RT2HD680J	J	AA	68 ohms,1/2W
R149	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R150	VRS-TV2AB104J	J	AA	100 kohm,1/10W
R151	VRD-ST2CD561J	J	AA	560 ohms,1/6W
R152	VRS-TV2AB561J	J	AA	560 ohms,1/10W
R153	VRS-TV2AB563J	J	AA	56 kohms,1/10W
R154	VRS-TV2AB273J	J	AA	27 kohms,1/10W
R155	VRD-ST2CD4R7J	J	AA	4.7 ohms,1/6W
R156	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R157	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R158	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R201	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R202	VRS-TV2AB222J	J	AA	2.2 kohms,1/10W
R203	VRD-MN2BD273J	J	AA	27 kohms,1/8W
R204	VRD-ST2CD273J	J	AA	27 kohms,1/6W
R205	VRD-ST2EE271J	J	AA	270 ohms,1/4W
R206	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R207,208	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R209,210	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R211,212	VRS-TV2AB123J	J	AA	12 kohms,1/10W
R215	VRS-TV2AB183J	J	AA	18 kohms,1/10W
R216	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R218	VRS-TV2AB103J	J	AA	10 kohm,1/10W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R219,220	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R223,224	VRS-TV2AB104J	J	AA	100 kohm,1/10W
R227	VRD-ST2CD334J	J	AA	330 kohms,1/6W
R228	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R237	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R238	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R239	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R240	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R241	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R242	VRD-ST2CD681J	J	AA	680 ohms,1/6W
R243	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R244	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R245	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R246	VRS-TV2AB681J	J	AA	680 ohms,1/10W
R247	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R248	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R249	VRD-ST2CD821J	J	AA	820 ohms,1/6W
R250	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R251	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R252	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
R253	VRD-ST2CD182J	J	AA	1.8 kohms,1/6W
R254	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R255	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R256	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R257	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
R258	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
R259	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R260	VRD-ST2CD182J	J	AA	1.8 kohms,1/6W
R261	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R262	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R263	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R264	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
R265	VRD-ST2CD183J	J	AA	18 kohms,1/6W
R266	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R267	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R268	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
R269	VRD-ST2CD182J	J	AA	1.8 kohms,1/6W
R270	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R271	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R272	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R273	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
R274	VRD-ST2CD183J	J	AA	18 kohms,1/6W
R275	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R276	VRD-ST2CD681J	J	AA	680 ohms,1/6W
R277	VRD-ST2CD821J	J	AA	820 ohms,1/6W
R278~282	VRD-ST2CD681J	J	AA	680 ohms,1/6W
R283	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R284	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R285	VRS-TV2AB122J	J	AA	1.2 kohms,1/10W
R286	VRS-TV2AB152J	J	AA	1.5 kohms,1/10W
R287	VRS-TV2AB182J	J	AA	1.8 kohms,1/10W
R288	VRS-TV2AB222J	J	AA	2.2 kohms,1/10W
R289	VRS-TV2AB332J	J	AA	3.3 kohms,1/10W
R290	VRS-TV2AB472J	J	AA	4.7 kohms,1/10W
R291~293	VRS-TV2AB681J	J	AA	680 ohms,1/10W
R301,302	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R303,304	VRD-MN2BD183J	J	AA	18 kohms,1/8W
R305,306	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R307,308	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R310	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
R311,312	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R313,314	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R315,316	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R317	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R318	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R319,320	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R323	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R325,326	VRS-TV2AB183J	J	AA	18 kohms,1/10W
R327,328	VRS-TV2AB333J	J	AA	33 kohms,1/10W
R351,352	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R353,354	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R355,356	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R359,360	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R363,364	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R379,380	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R381,382	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R405,406	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R407~414	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R415,416	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R417~424	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R425	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R426	VRD-MN2BD473J	J	AA	47 kohms,1/8W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R427	VRD-ST2EE151J	J	AA	150 ohms,1/4W
R433,434	VRD-MN2BD682J	J	AA	6.8 kohms,1/8W
R435,436	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R441,442	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R443	VRS-TV2AB222J	J	AA	2.2 kohms,1/10W
R444	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R445	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R447	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R448	VRS-TV2AB222J	J	AA	2.2 kohms,1/10W
R452	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R453	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R461,462	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R463~467	VRS-TV2AB222J	J	AA	2.2 kohms,1/10W
R468	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R469,470	VRS-TV2AB101J	J	AA	100 ohm,1/10W
R471,472	VRS-TV2AB121J	J	AA	120 ohms,1/10W
R473,474	VRD-ST2CD823J	J	AA	82 kohms,1/6W
R475	VRS-TV2AB152J	J	AA	1.5 kohms,1/10W
R476	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R477,478	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R501	VRD-ST2CD393J	J	AA	39 kohms,1/6W
R503	VRD-ST2CD221J	J	AA	220 ohms,1/6W
R504	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R505	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R506	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
R507	VRD-ST2CD393J	J	AA	39 kohms,1/6W
⚠ R508	VRG-ST2EF560J	J	AB	56 ohms,1/4W,Fusible
R509	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R510,511	VRD-ST2EE182J	J	AA	1.8 kohms,1/4W
R512,513	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R514	VRD-ST2EE181J	J	AA	180 ohms,1/4W
R518	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R519	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R520	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R521	VRD-ST2CD333J	J	AA	33 kohms,1/6W
R541	VRD-ST2EE822J	J	AA	8.2 kohms,1/4W
R542	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R543	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R544	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R545,546	VRD-ST2EE1R0J	J	AA	1 ohm,1/4W
R547,548	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R551,552	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R553,554	VRD-ST2CD272J	J	AA	2.7 kohms,1/6W
R561,562	VRD-RT2HD101J	J	AA	100 ohm,1/2W
R563,564	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R565,566	VRS-TV2AB683J	J	AA	68 kohms,1/10W
R567,568	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R569,570	VRS-TV2AB472J	J	AA	4.7 kohms,1/10W
R571	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R572	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R573	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R574	VRS-TV2AB222J	J	AA	2.2 kohms,1/10W
R581,582	VRD-SA2CD221J	J	AA	220 ohms,1/6W
R586	VRD-SA2CD221J	J	AA	220 ohms,1/6W
R589	VRD-SA2CD152J	J	AA	1.5 kohms,1/6W
R590	VRD-SA2CD103J	J	AA	10 kohm,1/6W
R591	VRD-RT2HD4R7J	J	AA	4.7 ohms,1/2W
R592	VRD-SA2CD222J	J	AA	2.2 kohms,1/6W
R593	VRD-SA2CD103J	J	AA	10 kohm,1/6W
R594	VRD-SA2CD102J	J	AA	1 kohm,1/6W
R595	VRD-RT2HD2R2J	J	AA	2.2 ohms,1/2W
R596,597	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R603,604	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R605,606	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R609,610	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R611,612	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R613,614	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R615,616	VRD-ST2CD561J	J	AA	560 ohms,1/6W
R617,618	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R619,620	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R621,622	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R623	VRD-ST2CD394J	J	AA	390 kohms,1/6W
R624	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R625	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R626	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R627	VRD-ST2CD183J	J	AA	18 kohms,1/6W
R628	VRD-ST2CD682J	J	AA	6.8 kohms,1/6W
R629	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R630	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R631	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R632	VRD-ST2CD333J	J	AA	33 kohms,1/6W
R633,634	VRD-ST2CD563J	J	AA	56 kohms,1/6W

MD-X3H

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R635,636	VRD-ST2EE4R7J	J	AA	4.7 ohms,1/4W
R643	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R644	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R645	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R647	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R648	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R649	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R651	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R652	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
R661,662	VRD-ST2EE3R9J	J	AA	3.9 ohms,1/4W
R663,664	VRD-ST2EE5R6J	J	AA	5.6 ohms,1/4W
R670,671	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R672	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R673	VRS-TV2AB181J	J	AA	180 ohms,1/10W
R676	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R677~681	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R682,683	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R684	VRS-TQ2BB103J	J	AA	10 kohm,1/8W
R687	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R688	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R689	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R690,691	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R692,693	VRS-TV2AB222J	J	AA	2.2 kohms,1/10W
R694,695	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R696~698	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R699	VRS-TV2AB472J	J	AA	4.7 kohms,1/10W
R702	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R703,704	VRD-MN2BD823J	J	AA	82 kohms,1/8W
R735	VRD-MN2BD470J	J	AA	47 ohms,1/8W
R750	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R751	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R752	VRD-ST2EE180J	J	AA	18 ohms,1/4W
R755,756	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R757	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R761	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R762	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R763	VRD-MN2BD274J	J	AA	270 kohms,1/8W
R764	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R765	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R766	VRD-MN2BD221J	J	AA	220 ohms,1/8W
R767	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R768	VRD-MN2BD393J	J	AA	39 kohms,1/8W
R769~771	VRD-MN2BD273J	J	AA	27 kohms,1/8W
R772	VRD-MN2BD823J	J	AA	82 kohms,1/8W
R773	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R774	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R775	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R776	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R777	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R778	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R779	VRD-MN2BD123J	J	AA	12 kohms,1/8W
R780	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R782	VRD-MN2BD123J	J	AA	12 kohms,1/8W
R783	VRD-MN2BD393J	J	AA	39 kohms,1/8W
R784	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R792	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R803	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R807,808	VRD-ST2CD564J	J	AA	560 kohms,1/6W
R809	VRD-MN2BD184J	J	AA	180 kohms,1/8W
R810	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R812	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R818	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R819	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R820	VRD-ST2CD335J	J	AA	3.3 Mohms,1/6W
R822,823	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R901	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R902	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R903	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R904	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R905	VRS-TV2AB123J	J	AA	12 kohms,1/10W
R906	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R907	VRS-TV2AB822J	J	AA	8.2 kohms,1/10W
R908~913	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R915	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R917~920	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R921	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R922~931	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R932	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R933	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R934~937	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R938	VRS-TQ2BB102J	J	AA	1 kohm,1/8W
R939~948	VRS-TV2AB102J	J	AA	1 kohm,1/10W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R949	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R950	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R951	VRS-TV2AB182J	J	AA	1.8 kohms,1/10W
R952	VRS-TV2AB475J	J	AA	4.7 Mohms,10W
R953~960	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R961	VRS-TV2AB105J	J	AA	1 Mohm,1/10W
R962	VRS-TV2AB224J	J	AA	220 kohms,1/10W
R963,964	VRS-TV2AB123J	J	AA	12 kohms,1/10W
R965	VRS-TV2AB334J	J	AA	330 kohms,1/10W
R966	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R967	VRS-TQ2BB472J	J	AA	4.7 kohms,1/8W
R968	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R969	VRS-TV2AB823J	J	AA	82 kohms,1/10W
R970,971	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R972	VRS-TQ2BB471J	J	AA	470 ohms,1/8W
R973	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R983,984	VRS-TV2AB474J	J	AA	470 kohms,1/10W
R985,986	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R987,988	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R990~994	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R995,996	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R997	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R998,999	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R1000	VRS-TQ2BB120J	J	AA	12 ohms,1/8W
R1100	VRS-TQ2BB150J	J	AA	15 ohms,1/8W
R1110	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1111	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R1112	VRS-CY1JB100J	J	AA	10 ohm,1/16W
R1114	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R1115	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1116	VRS-CY1JB100J	J	AA	10 ohm,1/16W
R1117	VRN-CY1JD124D	J	AA	120 kohms,1/16W,1%,Metal Film
R1118	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R1119	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1120,1121	VRN-CY1JD223D	J	AA	22 kohms,1/16W,1%,Metal Film
R1122	VRN-CY1JD124D	J	AA	120 kohms,1/16W,1%,Metal Film
R1123	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R1124	VRS-CY1JB100J	J	AA	10 ohm,1/16W
R1125	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1126	VRS-CY1JB100J	J	AA	10 ohm,1/16W
R1127	VRN-CY1JD224D	J	AA	220 kohms,1/16W,1%,Metal Film
R1128	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R1129,1130	VRN-CY1JD473D	J	AA	47 kohms,1/16W,1%,Metal Film
R1131	VRN-CY1JD224D	J	AA	220 kohms,1/16W,1%,Metal Film
R1132	VRS-CY1JB100J	J	AA	10 ohm,1/16W
R1133	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R1134,1135	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R1136	VRS-CY1JB471J	J	AA	470 ohms,1/16W
R1140	VRS-CY1JB1R0J	J	AA	1 ohm,1/16W
R1141	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1142	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W
R1143	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1144	VRS-CY1JB391J	J	AA	390 ohms,1/16W
R1146	VRS-CY1JB335J	J	AA	3.3 Mohms,1/16W
R1147,1148	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1149	VRS-CY1JB393J	J	AA	39 kohms,1/16W
R1153	VRS-CY1JB184J	J	AA	180 kohms,1/16W
R1154	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1155	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R1156	VRS-CY1JB124J	J	AA	120 kohms,1/16W
R1157	VRS-CY1JB561J	J	AA	560 ohms,1/16W
R1158	VRS-CY1JB683J	J	AA	68 kohms,1/16W
R1159,1160	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1161	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1162	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R1163	VRS-CY1JB153J	J	AA	15 kohms,1/16W
R1164	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1166	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W
R1201	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R1202	VRS-CY1JB105J	J	AA	1 Mohm,1/16W
R1208	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R1209,1210	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1214	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1221	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1223	VRS-TV2AB331J	J	AA	330 ohms,1/10W
R1251	VRS-CY1JB100J	J	AA	10 ohm,1/16W
R1252,1253	VRS-CY1JB4R7J	J	AA	4.7 ohms,1/16W
R1303,1304	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1306	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1401	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1402,1403	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1404	VRS-CY1JB102J	J	AA	1 kohm,1/16W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R1405	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R1406	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1407,1408	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1409	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1411	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1412	VRS-CY1JB474J	J	AA	470 kohms,1/16W
R1413	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1414	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1415	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1416	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1418,1419	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1420	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1421	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1422	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R1423,1424	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1425	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R1427	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R1428~1430	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1452	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1453	VRS-CY1JB153J	J	AA	15 kohms,1/16W
R1454	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1455	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R1456	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1458	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1459	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1460	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1461	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1462	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1463	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1464	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1466	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1601	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1605	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R1607,1608	VRS-TQ2BB270J	J	AA	27 ohms,1/8W
R1609	VRS-CY1JB821J	J	AA	820 ohms,1/16W
R1610,1611	VRN-CY1JD123D	J	AB	12 kohms,1/16W,Metal Film
R1613	VRS-CY1JB153J	J	AA	15 kohms,1/16W
R1614	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
R1615	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R1616	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R1617	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1620	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R1621	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R1622	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R1650	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1651	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1652	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1653	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1654	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
R1655	VRS-CY1JB433J	J	AA	43 kohms,1/16W
R1656	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
R1657	VRS-CY1JB433J	J	AA	43 kohms,1/16W
R1658	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R1659	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1660	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R1661	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R1662	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R1663	VRS-CY1JB124J	J	AA	120 kohms,1/16W
R1664	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R1665	VRS-CY1JB124J	J	AA	120 kohms,1/16W
R1701	VRS-CY1JB1R0J	J	AA	1 ohm,1/16W
R1702	VRS-CY1JB220J	J	AA	22 ohms,1/16W
R1703,1704	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1705,1706	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R1707,1708	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1709	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1710	VRS-CY1JB303J	J	AA	30 kohms,1/16W
R1711	VRS-CY1JB393J	J	AA	39 kohms,1/16W
R1712	VRS-CY1JB821J	J	AA	820 ohms,1/16W
R1713	VRS-CY1JB1R0J	J	AA	1 ohm,1/16W
R1714	VRS-CY1JB821J	J	AA	820 ohms,1/16W
R1715	VRN-CY1JD332D	J	AA	3.3 kohms,1/16W,Metal Film
R1716	VRN-CY1JD123D	J	AB	12 kohms,1/16W,Metal Film
R1717	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W
R1718	VRS-CY1JB393J	J	AA	39 kohms,1/16W
R1719	VRS-CY1JB182J	J	AA	1.8 kohms,1/16W
R1720~1722	VRS-CY1JB1R0J	J	AA	1 ohm,1/16W
R1723	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1724,1725	VRS-CY1JB392J	J	AA	3.9 kohms,1/16W
R1731	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1733	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1734,1735	VRS-CY1JB473J	J	AA	47 kohms,1/16W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R1737,1738	VRS-CY1JB393J	J	AA	39 kohms,1/16W
R1739	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1740	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R1741	VRS-CY1JB225J	J	AA	0.2 Mohms,1/16W
R1742	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1743	VRS-CY1JB183J	J	AA	18 kohms,1/16W
R1744	VRS-CY1JB225J	J	AA	0.2 Mohms,1/16W
R1746,1747	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R1750,1751	VRS-TV2AB121J	J	AA	120 ohms,1/10W
R1753,1754	VRS-CY1JB303J	J	AA	30 kohms,1/16W
R1804	VRN-CY1JD392D	J	AA	3.9 kohms,1/16W,Metal Film
R1805	VRN-CY1JD272D	J	AA	2.7 kohms,1/16W,Metal Film
R1806	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W
R1807	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R1811	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W
R1812	VRS-CY1JB681J	J	AA	680 ohms,1/16W
R1820	VRS-CY1JB681J	J	AA	680 ohms,1/16W
R1821	VRS-CY1JB821J	J	AA	820 ohms,1/16W
R1822	VRN-CY1JD332D	J	AA	3.3 kohms,1/16W,Metal Film
R1823	VRN-CY1JD123D	J	AB	12 kohms,1/16W,Metal Film
R1825	VRS-CY1JB122J	J	AA	1.2 kohms,1/16W
R1826	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1830~1835	VRS-CY1JB1R0J	J	AA	1 ohm,1/16W
R1836	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R1837	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R1841	VRN-CY1JD273D	J	AA	27 kohms,1/16W,1%,Metal Film
R1842	VRS-CY1JB273J	J	AA	27 kohms,1/16W
R1843	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1845	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1846	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R1847	VRS-CY1JB243J	J	AA	24 kohms,1/16W
R1855	VRS-CY1JB393J	J	AA	39 kohms,1/16W
R1856	VRS-CY1JB154J	J	AA	150 kohms,1/16W
R1857	VRS-CY1JB224J	J	AA	220 kohms,1/16W
R1858	VRS-CY1JB225J	J	AA	0.2 Mohms,1/16W
R1859	VRN-CY1JD392D	J	AA	3.9 kohms,1/16W,Metal Film
R1860	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R1861	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R1920	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1921	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1923	VRS-TV2AB220J	J	AA	22 ohms,1/10W
R1927	VRS-TV2AB220J	J	AA	22 ohms,1/10W
R1930	VRS-CY1JB821J	J	AA	820 ohms,1/16W
R1931	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R1935	VRS-TV2AB220J	J	AA	22 ohms,1/10W
R1937	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1938	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1948	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R1949	VRS-CY1JB821J	J	AA	820 ohms,1/16W
R1961	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R1962	VRS-CY1JB224J	J	AA	220 kohms,1/16W
R1963	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R1964	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R1965	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R1967	VRS-CY1JB470J	J	AA	47 ohms,1/16W
R1968	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R1969	VRS-TQ2BB100J	J	AA	10 ohm,1/8W
R1994,1995	VRS-CY1JB101J	J	AA	100 ohm,1/16W
RA9,10	VRS-TV2AB103J	J	AA	10 kohm,1/10W
RA11,12	VRS-TV2AB153J	J	AA	15 kohms,1/10W
RA21,22	VRS-TV2AB472J	J	AA	4.7 kohms,1/10W
RA23,24	VRS-TV2AB153J	J	AA	15 kohms,1/10W
RA29	VRD-ST2CD101J	J	AA	100 ohm,1/6W
RA31	VRD-ST2CD101J	J	AA	100 ohm,1/6W
RA41,42	VRD-MN2BD102J	J	AA	1 kohm,1/8W
RA52	VRD-MN2BD220J	J	AA	22 ohms,1/8W
RA53	VRD-MN2BD103J	J	AA	10 kohm,1/8W
RA54	VRD-MN2BD220J	J	AA	22 ohms,1/8W
RA55	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
RA56	VRD-MN2BD103J	J	AA	10 kohm,1/8W
RA57	VRD-MN2BD220J	J	AA	22 ohms,1/8W
RA71	VRS-TV2AB473J	J	AA	47 kohms,1/10W
RA72~76	VRS-TV2AB103J	J	AA	10 kohm,1/10W
RA78	VRS-TV2AB122J	J	AA	1.2 kohms,1/10W
RA80,81	VRS-TV2AB102J	J	AA	1 kohm,1/10W
RA105,106	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
RA107,108	VRD-ST2CD123J	J	AA	12 kohms,1/6W
RA109~112	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RA114~116	VRD-ST2CD103J	J	AA	10 kohm,1/6W
RA117	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
RA118	VRD-ST2CD223J	J	AA	22 kohms,1/6W
RA119	VRD-ST2CD473J	J	AA	47 kohms,1/6W

MD-X3H

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
RA120	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
RA121	VRD-ST2CD333J	J	AA	33 kohms,1/6W
RA122	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RA123	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
RA124	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RA125,126	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
RA127	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
RA128	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
RA129	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RA130	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RA131	VRD-ST2CD102J	J	AA	1 kohm,1/6W
RA132	VRD-ST2CD104J	J	AA	100 kohm,1/6W
RA133	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
RA134	VRD-ST2CD152J	J	AA	1.5 kohms,1/6W
RA135	VRD-ST2CD682J	J	AA	6.8 kohms,1/6W
RA137	VRD-ST2CD821J	J	AA	820 ohms,1/6W
RA141,142	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
RA143,144	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
RA145~147	VRD-ST2CD103J	J	AA	10 kohm,1/6W
RA151	VRD-ST2EE221J	J	AA	220 ohms,1/4W
⚠RP101	RH-QX0003AWZZ	J	AK	Posistor,2.2 ohms
⚠RP501	RH-QX0003AWZZ	J	AK	Posistor,2.2 ohms
⚠RP502	RH-QX0002AWZZ	J	AK	Posistor,0.7 ohms
⚠RP503	RH-QX0003AWZZ	J	AK	Posistor,2.2 ohms

OTHER CIRCUITRY PARTS

B1A3/CNSA3	QCNWN0761AWZZ	J	AE	Connector Ass'y,2-2Pin
BI201/CNS201	QCNWN0532AWZZ	J	AE	Connector Ass'y,2-2Pin
BI202/CNS202	QCNWN0533AWZZ	J	AH	Connector Ass'y,11-11Pin
BI501/CNS581	QCNWN0530AWZZ	J	AG	Connector Ass'y,5-5Pin
BI541/CNS541/54	QCNWN0527AWZZ	J	AL	Connector Ass'y,11-7-3Pin
BI583/CNS583	QCNWN0536AWZZ	J	AG	Connector Ass'y,6-5Pin
BI584/CNS585	QCNWN0024AWZZ	J	AE	Connector Ass'y,4-3Pin
BI601/CNS601	QCNWN0528AWZZ	J	AN	Connector Ass'y,14-14Pin
BI700/CNS700	QCNWN0541AWZZ	J	AF	Connector Ass'y,6-6Pin
BI751/CNS751	QCNWN0540AWZZ	J	AH	Connector Ass'y,8-8Pin
BI752/CNS752	QCNWN0539AWZZ	J	AL	Connector Ass'y,6-5Pin
BI802/CNSA52	QCNWN0611AWZZ	J	AB	Connector Ass'y,2-2Pin
BI851/CNS586	QCNWN0538AWZZ	J	AF	Connector Ass'y,4-4Pin
BI902/CNS543	QCNWN0524AWZZ	J	AG	Connector Ass'y,3-3Pin
BI904/CNS904	QCNWN0523AWZZ	J	AG	Connector Ass'y,6-6Pin
BI1902/CNS1602	QCNWN6436AFZZ	J	AF	Connector Ass'y,5-5Pin
BIA1~3/CNSA4	QCNWN0759AWZZ	J	AC	Connector Ass'y,2-1-3-7Pin
CNP2	92LCONE-2P5268	J	AB	Plug,2Pin
CNP101	QCNCM687GAFZZ	J	AB	Plug,7Pin
CNP201	92LCONPB2BPHK	J	AB	Plug,2Pin
CNP202	92LCONEBP53254	J	AD	Plug,11Pin
CNP255	QCNCM022HAWZZ	J	AE	Plug,8Pin
CNP301,302	QCNCWZS18AWZZ	J	AH	Plug,18Pin
CNP541	92LCONE-3P5267	J	AB	Plug,3Pin
CNP542	92LCONE-7P5267	J	AC	Plug,7Pin
CNP543	QCNCM869CAFZZ	J	AC	Plug,3Pin
CNP581	92LCONE5P53015	J	AD	Plug,5Pin
CNP582	QCNCWZK20AWZZ	J	AE	Socket,20Pin
CNP583	92LCONE5P53254	J	AB	Plug,5Pin
CNP584	QCNCW005FAWZZ	J	AD	Socket,6Pin
CNP585	QCNCM932LAFZZ	J	AD	Plug,3Pin
CNP586	QCNCM932DAFZZ	J	AC	Plug,4Pin
CNP601	QCNCM742PAFZZ	J	AD	Plug,15Pin
CNP700	92LCONE6P53254	J	AC	Plug,6Pin
CNP800	92LCONPS12BPHK	J	AE	Plug,12Pin
CNP904	92LCONE6P53253	J	AC	Plug,6Pin
CNP905	QCNCM024LAWZZ	J	AH	Plug,11Pin
CNP906	QCNCM020FAWZZ	J	AE	Plug,6Pin
CNP907	QCNCM021EAWZZ	J	AD	Plug,5Pin
CNP1252	QCNCM891BAFZZ	J	AC	Plug,2Pin
CNP1601	QCNCM891EAFZZ	J	AD	Plug,5Pin
CNP1602	QCNCM890EAFZZ	J	AD	Plug,5Pin
CNP1901	QCNCM924EAFZZ	J	AD	Plug,5Pin
CNPA1	QCNCWZJ24AWZZ	J	AK	Socket,24Pin
CNPA2	92LCONE5P53253	J	AB	Plug,5Pin
CNPA3	92LCONE2P53253	J	AB	Plug,2Pin
CNPA4	92LCONE7P53253	J	AC	Plug,7Pin
CNPA51	QCNCWZD08AFZZ	J	AF	Socket,8Pin
CNPA52	92LCONE2P53253	J	AB	Plug,2Pin
CNS101	QCNWN0531AWZZ	J	AP	Connector Ass'y,7Pin
CNS253	QCNCW679LAFZZ	J	AG	Socket,11Pin
CNS254	QCNCW016EAWZZ	J	AE	Socket,5Pin
CNS255	QCNCW016HAWZZ	J	AF	Socket,8Pin
CNS256	QCNCW016FAWZZ	J	AF	Socket,6Pin
CNS671	QCNCMZS18AWZZ	J	AH	Socket,18Pin

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
CNS800	QCNWN0537AWZZ	J	AL	Connector Ass'y,12-12Pin
CNS901	QCNCMZS18AWZZ	J	AH	Socket,18Pin
CNS908	QCNCWZL20AWZZ	J	AE	Socket,20Pin
CNS1101	QCNCWY026AFZZ	J	AH	Socket,26Pin
CNS1252	QCNWN6504AFZZ	J	AD	Connector Ass'y,2Pin
CNS1601/1901	QCNWN6437AFZZ	J	AG	Connector Ass'y,5-5Pin
CNS1901	QCNCMZE24AFZZ	J	AG	Socket,24Pin
CNS1903	QCNCW762HAFZZ	J	AE	Socket,8Pin
CNSA2	QCNWN0760AWZZ	J	AG	Connector Ass'y,5Pin
⚠F542,543	92LFUSE-T502E	J		Fuse,T5A L 250V
⚠F544	92LFUSE-T202E	J	AD	Fuse,T2A L 250V
⚠F545	92LFUSET201E	J	AD	Fuse,T200mA L 250V
FL901	VVK21BT02G/-1	J	BK	FL Display
FW252	QCNWN0525AWZZ	J	AC	Flat Wire,4Pin
FW402	QCNWN0588AWZZ	J	AK	Flat Wire,3Pin
FW482	QCNWN0522AWZZ	J	AH	Flat Cable,20Pin
FW581	QCNWN0023AWZZ	J	AD	Flat Wire,3Pin
FW584	QCNWN0021AWZZ	J	AD	Flat Wire,6Pin
J301	QJAKH0001AWZZ	J	AH	Jack,AUX
J302	92LJACKL1706A	J	AH	Jack,Analog Input/Output
J561	QJAKH0001AWZZ	J	AH	Jack,Headphones
M401	92LMTR2126A1AS	J	AS	Motor with Pulley [Tape]
M581	92LMTR1854AS1	J	AP	Motor with Pulley [Loading]
M582	92LMTR1854AS1	J	AP	Motor with Pulley [Disc Select]
M701	92LMTR1854CASY	J	AS	Motor with Chassis [Spin]
M702	92LMTR1854BASY	J	AP	Motor with Gear [Slide]
M1951	RMOTV0464AFZZ	J	AP	MD Slide Motor Ass'y
M1952	RMOTV0472AFZZ	J	AU	MD Disc Motor Ass'y
M1953	RMOTV0465AFZZ	J	AP	MD Loading/Head Motor Ass'y
RL601	RRLYD0004AWZZ	J	AP	Relay
SO1	QTANC0101AWZZ	J	AF	Treminal,Antenna
SO601	QTANA0401AWZZ	J	AG	Terminal,Speaker
SOL401	RPLU-0250AFZZ	J	AG	Solenoid
SW101	92LSWICH-414D	J	AD	Switch,Slide Type [Beat Cancel]
SW251	92LSWICHT1663T	J	AC	Switch,Key Type [Tape Forward]
SW252	92LSWICHT1663T	J	AC	Switch,Key Type [Tape Stop]
SW253	92LSWICHT1663T	J	AC	Switch,Key Type [Tape Reverse]
SW254	92LSWICHT1663T	J	AC	Switch,Key Type [Tape Fast Forward]
SW255	92LSWICHT1663T	J	AC	Switch,Key Type [Tape Rewind]
SW256	92LSWICHT1663T	J	AC	Switch,Key Type [Tape Record/Pause]
SW257	92LSWICHT1663T	J	AC	Switch,Key Type [Dolby NR]
SW258	92LSWICHT1663T	J	AC	Switch,Key Type [Reverse Mode]
SW259	92LSWICHT1663T	J	AC	Switch,Key Type [MD Play]
SW260	92LSWICHT1663T	J	AC	Switch,Key Type [MD Stop]
SW261	92LSWICHT1663T	J	AC	Switch,Key Type [MD Eject]
SW262	92LSWICHT1663T	J	AC	Switch,Key Type [Display/Character]
SW263	92LSWICHT1663T	J	AC	Switch,Key Type [Timer/Delete]
SW264	92LSWICHT1663T	J	AC	Switch,Key Type [Name TOC-Edit]
SW265	92LSWICHT1663T	J	AC	Switch,Key Type [Play]
SW266	92LSWICHT1663T	J	AC	Switch,Key Type [Track]
SW267	92LSWICHT1663T	J	AC	Switch,Key Type [MD Record Mode]
SW268	92LSWICHT1663T	J	AC	Switch,Key Type [MD Record]
SW269	92LSWICHT1663T	J	AC	Switch,Key Type [Power]
SW270	92LSWICHT1663T	J	AC	Switch,Key Type [Tuner Call (Band)]
SW271	92LSWICHT1663T	J	AC	Switch,Key Type [Auxiliary (Digital/Analog)]
SW272	92LSWICHT1663T	J	AC	Switch,Key Type [Volume Up]
SW273	92LSWICHT1663T	J	AC	Switch,Key Type [Volume Down]
SW275	92LSWICHT1663T	J	AC	Switch,Key Type [3D Surround]
SW276	92LSWICHT1663T	J	AC	Switch,Key Type [MD Fast Forward]
SW277	92LSWICHT1663T	J	AC	Switch,Key Type [Enter]
SW278	92LSWICHT1663T	J	AC	Switch,Key Type [MD Rewind]
SW279	92LSWICHT1663T	J	AC	Switch,Key Type [CD Play]
SW280	92LSWICHT1663T	J	AC	Switch,Key Type [CD Stop]
SW281	92LSWICHT1663T	J	AC	Switch,Key Type [CD Open/Close]
SW282	92LSWICHT1663T	J	AC	Switch,Key Type [CD Disc Skip]
SW283	QSW-K0173AFZZ	J	AB	Switch,Key Type [Disc 3]
SW284	QSW-K0173AFZZ	J	AB	Switch,Key Type [Disc 2]
SW285	QSW-K0173AFZZ	J	AB	Switch,Key Type [Disc 1]
SW391	92LSWICH-1385A	J	AC	Switch,Key Type [Reset]
SW401	QSW-F9064AFZZ	J	AC	Switch,Leaf Type [Tape Cassette Detection]

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
SW402	QSW-F9064AFZZ	J	AC	Switch,Leaf Type [Tape Side B Erase Prevention]
SW403	QSW-F9065AFZZ	J	AC	Switch,Leaf Type [Tape Main]
SW404	QSW-F9064AFZZ	J	AC	Switch,Leaf Type [Tape Side A Erase Prevention]
SW405	QSW-F9064AFZZ	J	AC	Switch,Leaf Type [Tape CrO2 Detection]
SW581	QSW-P0001AWZZ	J	AE	Switch,Push Type [Tray Open]
SW702	QSW-F9001AWZZ	J	AE	Switch,Push Type [Pickup In]
SW1951A/B	QSW-P1005AFZZ	J	AF	Switch,Push Type [Disc Protect/Disc Media]
SW1953	QSW-M0157AFZZ	J	AD	Switch,Slide Type [Lead In]
SW1954	QSW-M0159AFZZ	J	AC	Switch,Push Type [MD Play]
SW1955	QSW-M0159AFZZ	J	AC	Switch,Push Type [MD Record]
SW1956	QSW-M0156AFZZ	J	AC	Switch,Leaf Type [Loading]
TP141	92LCONE3P53253	J	AB	Plug,3Pin [Test Point]
TP201	92LCONE3P53253	J	AB	Plug,3Pin [Test Point]
TP751	92LCONE6P5267X	J	AC	Plug,6Pin [Test Point]
TUN1	92LTUNER1775A	J	AY	FM Front End
UNT251	VHLTFMS538B-1	J	AN	Remote Control Receiver
UNTA51	VHPGP1F32R/-1	J	AP	Terminal Optical Digital Input
UNTA52	VHPGP1F32T/-1	J	AP	Terminal Optical Digital Output

DECK MECHANISM PARTS

1	92LM-ANG1756B	J	AD	Bracket,Motor
2	92LM-ANG1756A	J	AD	Bracket,Lock Lever
3	92LM-CUSN1676A	J	AB	Cushion,Head
4	92LM-CASY1756A	J	AH	Main Chassis Ass'y
5	LBSHZ0086AFZZ	J	AA	Cushion,Motor
6	92LMSCASY1676B	J	AF	Reel Base Ass'y
7	LDAIH0112AFZZ	J	AD	Head Base Ass'y
8	LHLDS1077AFZZ	J	AD	Metal Holder Ass'y,Forward
9	LHLDS1078AFZZ	J	AC	Metal Holder Ass'y,Reverse
10	LHLDW1075AFZZ	J	AA	Nylon Band,60mm
11	LPLTM0004AWZZ	J	AD	Head Plate Ass'y
12	92LM-HFPA1676A	J	AK	Head Mounting Plate Ass'y
15	92LM-CAM1676A	J	AC	Cam,Drive
16	92LM-OSLA1676A	J	AD	Overstroke Lever Ass'y
17	92LM-PRLA1676A	J	AD	Pinch Roller Drive Lever Ass'y
18	92LM-LEV1756B	J	AC	Lever,Lock Stopper
19	92LM-LEV1676A	J	AC	Lever,Brake
20	92LM-LEV1676B	J	AC	Lever,Cam Trigger
21	92LM-LEV1676C	J	AB	Lever,Eject Stopper
22	MLEVP0042AWZZ	J	AB	Lever,Lock
23	92LM-PLA1676A	J	AE	Play Gear Lever Ass'y
24	MLEVP0039AWM1	J	AG	FF/REW Gear Lever Ass'y
25	92LM-CSPR1676C	J	AA	Spring,Solenoid
26	MSPRC0916AFFJ	J	AA	Spring,Back Tension
27	MSPRD1217AFFJ	J	AA	Spring,Overstroke
28	MSPRD1218AFFJ	J	AA	Spring,Brake
29	MSPRD1219AFFJ	J	AA	Spring,Cam Trigger
30	MSPRD1220AFFJ	J	AA	Spring,Head Reverse
31	92LM-TSPR1676E	J	AA	Spring,Pinch Roller, Forward
32	92LM-TSPR1676F	J	AA	Spring,Pinch Roller, Reverse
33	MSPRD1223AFFJ	J	AA	Spring,Pinch Roller, Forward, Small
34	MSPRD1224AFFJ	J	AA	Spring,Pinch Roller, Reverse, Small
35	MSPRD1225AFFJ	J	AA	Spring,Pinch Roller Drive Lever
36	MSPRD1226AFFJ	J	AA	Spring,Play Idler Lever
37	MSPRD1227AFFJ	J	AA	Spring,FF/REW Idler Lever
38	MSPRD1290AFFJ	J	AA	Spring,Lock Lever
39	92LMCPFSPR719A	J	AB	Spring,Cassette Press
41	MSPRT1520AFFJ	J	AA	Spring,Ground
42	92LM-BELT1756A	J	AC	Belt,Flywheel
44	NBLTK0514AFZZ	J	AA	Belt,FF/REW
45	92LM-REL1676A	J	AC	Reel
46	92LM-REL1676B	J	AB	Cap,Reel
47	NFLYC0006AWM1	J	AM	Flywheel Ass'y,Forward
48	NGERH0482AFZZ	J	AF	Limit Gear Ass'y
49	92LM-GEAR1676A	J	AB	Gear,Head
50	92LM-GEAR1676B	J	AB	Gear,Head Reverse
51	92LM-GEAR1676C	J	AC	Gear,Play
52	92LM-GEAR1676D	J	AC	Gear,FF/REW
53	92LM-GERA1676B	J	AB	Reel Sensor Gear Ass'y
55	MLEVP0040AWM1	J	AH	Pinch Roller Ass'y,Forward
56	MLEVP0041AWM1	J	AH	Pinch Roller Ass'y,Reverse
58	RHEDK0001AWZZ	J	AU	Head,Playback/ Record/Erase
59	NFLYC0007AWM1	J	AM	Flywheel Ass'y,Reverse
60	MSPRD1282AFFJ	J	AB	Spring,FF/REW Gear
61	MSPRD1283AFFJ	J	AA	Spring,Sensor Gear

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
501	LX-BZ0004AWFD	J	AC	Screw,Lock Lever
502	92LS2S1676A	J	AA	Screw,ø2×6mm
503	LX-WZ9064AFZZ	J	AA	Washer,ø1.5×ø3.8×0.5mm
504	LX-WZ9069AFZZ	J	AA	Washer,ø1.2×ø4×0.25mm
506	LX-WZ9230AFZZ	J	AA	Washer,ø1.8×ø4×0.5mm
507	XBPSD14P05500	J	AA	Screw,ø1.4×5.5mm
509	XHBSD20P04000	J	AA	Screw,ø2×4mm
510	XHBSD20P05000	J	AA	Screw,ø2×5mm
511	XHBSD20P16000	J	AA	Screw,ø2×16mm
513	92L2R3W4R4R25P	J	AA	Washer,ø2.3×ø4.4×0.25mm
514	XWSSD20-06000	J	AA	Washer,ø2×0.6mm
515	92LS2R6S262B	J	AA	Special Screw,Motor
516	XWVSD22-03000	J	AA	Washer,ø2.2×0.3mm
519	LX-WZ9191AFZZ	J	AA	Washer,ø1.6×ø3.4×0.5mm
M401	92LMTR2126A1AS	J	AS	Motor with Pulley [Tape]
SOL401	RPLU-0250AFZZ	J	AG	Solenoid
SW401	QSW-F9064AFZZ	J	AC	Switch,Leaf Type [Tape Cassette Detection]
SW402	QSW-F9064AFZZ	J	AC	Switch,Leaf Type [Side B Erase Prevention]
SW403	QSW-F9065AFZZ	J	AC	Switch,Leaf Type [Tape Main]
SW404	QSW-F9064AFZZ	J	AC	Switch,Leaf Type [Side A Erase Prevention]
SW405	QSW-F9064AFZZ	J	AC	Switch,Leaf Type [Tape CrO2 Detection]

MD MECHANISM PARTS

1	NGERH0541AFZZ	J	AC	Gear,Drive
2	NSFTM0279AFFW	J	AE	Shaft,Drive Screw
3	RCTRH8153AF10	J	BU	Optical Pickup Unit
4	MSPRP0726AFFJ	J	AA	Spring,Shaft
5	MSPRP0772AFFJ	J	AA	Spring,Drive Grip Plate
6	LANGF1528AFZZ	J	AK	Pickup Guide Bracket Ass'y
7	XWSSD14-05000	J	AA	Washer,ø1.4×0.5mm
8	LX-BZ0804AFFF	J	AA	Screw,ø1.4×2.2mm
9	LX-BZ0824AFZZ	J	AA	Screw,ø1.4×3mm
10	LANGF1526AFZZ	J	AD	MD Pickup Guide (A)
11	NSFTM0277AFFW	J	AC	Shaft,Pickup Slide
12	MLEVF2515AFZZ	J	AG	Cam Plate Ass'y
13	MSPRD1321AFFJ	J	AB	Spring,Lack
14	NGERH0558AFZZ	J	AC	Gear,Lack
15	LX-WZ9269AFZZ	J	AA	Washer,ø1.2×ø3×0.25mm
16	LCHSM0902AFZZ	J	AL	Drive Plate Ass'y
17	MLEVF2518AFZZ	J	AC	Arm, Magnetic Head Up Shift
18	MSPRD1318AFFJ	J	AB	Spring,Shift Arm
19	LANGF1527AFZZ	J	AD	MD Guide (B)
20	NSFTM0278AFFW	J	AC	Shaft,Pickup Guide
21	LX-BZ0850AFZZ	J	AB	Screw,ø1.7×7mm
22	NGERH0542AFZZ	J	AD	Gear,Loading (A)
23	NSFTM0280AFFW	J	AC	Shaft,Loading Gear
24	MSPRP0795AFFJ	J	AC	Spring,Drive Shaft
25	LX-BZ0848AFZZ	J	AB	Screw,ø1.7×9mm
26	LX-BZ0851AFZZ	J	AB	Screw,ø1.7×2.5mm
27	LX-BZ0849AFZZ	J	AB	Screw,ø2×2mm
28	NGERH0540AFZZ	J	AC	Gear,Loading (B)
29	MLEVF2538AFZZ	J	AL	Roller Arm Ass'y
30	LX-WZ9268AFZZ	J	AA	Washer,ø1.5×ø3.2×0.5mm
31	MSPRT1566AFFJ	J	AB	Spring,Roller Arm
32	LX-BZ0846AFZZ	J	AB	Screw,ø1.7×3mm
33	LHLDX3127AFZZ	J	AL	Cartridge Holder Ass'y
34	MLEVF2536AFZZ	J	AF	Arm,Holder
35	LX-BZ0883AFZZ	J	AB	Screw,ø1.7×5mm
36	MSPRD1319AFFJ	J	AB	Spring,Holder Arm
37	RCILH0105AFZZ	J	AX	Magnetic Head
39	LX-BZ0880AFZZ	J	AC	Screw,ø2×2.2mm
40	MSPRT1565AFFJ	J	AC	Spring,Disc Motor
41	MLEVP1033AFZZ	J	AC	Clampa
42	MLEVP1034AFZZ	J	AC	Lever,Catch
43	MSPRD1334AFFJ	J	AC	Spring,Catch Lever
44	PCUSS0681AF00	J	AC	Cushion
45	PCOVW8151AFZZ	J	AB	Cover,Head Guide
100	KRPLF0006AF21	J		MD Mechanism Ass'y
401	PCOVS3156AFFW	J	AH	Cover,Shield,Top
402	PCUSS0654AFZZ	J	AB	Cushion,Head
404	QCNWN6566AFM1	J	AP	MD Flexible PWB
405	PCOVS3158AFFW	J	AH	Cover,Shield,Bottom
406	LANGK0880AFFW	J	AL	Frame
407	PCUSG0531AFSA	J	AD	Cushion (A)
408	PCUSG0531AFSB	J	AD	Cushion (B)
409	LANGK0028AWFW	J	AE	Bracket,MD Mechanism
412	QCNWN6505AFM1	J	AN	MD Flexible PWB

MD-X3H

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
501	XBPSD20P04K00	J	AA	Screw,ø2×4mm with Washer
502	XSPSN17P03K00	J	AB	Screw,ø1.7×3mm
503	LX-BZ0852AFFD	J	AC	Screw,ø1.7×8.9mm
504	XBPSD20P08KS0	J	AA	Screw,ø2×8mm
M1951	RMOTV0464AFZZ	J	AP	MD Slide Motor Ass'y
M1952	RMOTV0472AFZZ	J	AU	MD Disc Motor Ass'y
M1953	RMOTV0465AFZZ	J	AP	MD Loading/Head Motor Ass'y
SW1951A/B	QSW-P1005AFZZ	J	AF	Switch,Push Type [Disc Protect/Disc Media]
SW1953	QSW-M0157AFZZ	J	AD	Switch,Slide Type [Lead In]
SW1954	QSW-M0159AFZZ	J	AC	Switch,Push Type [MD Play]
SW1955	QSW-M0159AFZZ	J	AC	Switch,Push Type [MD Record]
SW1956	QSW-M0156AFZZ	J	AC	Switch,Leaf Type [Loading]

CD MECHANISM PARTS

301	NGERH0011AWZZ	J	AC	Gear,Middle
302	NGERH0012AWZZ	J	AC	Gear,Drive
303	MLEVP0010AWZZ	J	AC	Rail,Guide
304	NSFTM0002AWFW	J	AE	Shaft,Guide
305	PCUSG0427AFSC	J	AC	Cushion
⚠306	RCTRH8151AFZZ	J	BG	Pickup Unit Ass'y
306-1	———		—	Pickup Unit (Not Replacement Item)
306-2	NGERR0043AFZZ	J	AC	Gear,Rack
306-3	MSPRC0961AFZZ	J	AA	Spring,Rack
307	PCUSG0001AWSA	J	AD	Cushion
308	PCUSG0004AWSA	J	AD	Cushion
701	92L2R6S+6CZ	J	AB	Screw,ø2.6×6mm
702	92L2TTS+5BB	J	AB	Screw,ø2×5mm
703	92L2S+3PZ	J	AA	Screw,ø2×3mm
704	92L1R5WC3R8R25	J	AA	Washer,ø1.5×ø3.8×0.25mm
M701	92LMTR1854CASY	J	AS	Motor with Chassis [Spin]
M702	92LMTR1854BASY	J	AP	Motor with Gear [Slide]
SW702	QSW-F9001AWZZ	J	AE	Switch,Push Type [Pickup In]

CABINET PARTS

201	92LCAB2416AS1	J	BA	Front Panel Ass'y
201-1	———		—	Front Panel (Not Replacement Item)
201-2	HBDGB1001AWSA	J	AD	Badge,SHARP
201-3	92LCUSN1585A	J	AA	Leg,Cushion
201-4	HDECP0037AWSA	J	AC	Panel,SRS
202	GDORF0013AWSA	J	AH	MD Door
203	LHLDZ1089AW00	J	AD	Holder,MD Door
204	MSPRD0027AWZZ	J	AB	Spring,MD Door
205	HDECQ0070AWSB	J	AD	Panel,MD Clear
206	PSHEZ0011AWZZ	J	AD	Sheet,MD LED
207	LHLDZ1077AWSA	J	AC	Holder,MD LED
208	LHLDX1006AWSA	J	AG	Holder,Cassette
209	MSPRD0062AWZZ	J	AB	Spring,Cassette Holder Up
210	MLIFP0003AWZZ	J	AE	Damper,Cassette Holder
211	JKNBZ0269AWSA	J	AF	Button,Volume
212	HDECQ0151AWSA	J	AG	Plate,Volume Decoration Button
213	JKNBZ0274AWSA	J	AG	Button,Enter
214	JKNBZ0270AWSA	J	AG	Button,Cassette
215	JKNBZ0272AWSA	J	AE	Button,Tuner/Auxiliany
216	JKNBZ0275AWSA	J	AF	Button,Power
217	JKNBZ0268AWSA	J	AK	Button,MD Operation
220	JKNBZ0271AWSA	J	AE	Button,Reverse Mode/Dolby NR
221	LHLDZ1080AW00	J	AF	Holder,MD Mechanism Unit
222	———		—	Nat (with 249)
223	———		—	Washer (with 249)
224	JKNBZ0146AWSA	J	AF	Button,CD Disc Select
225	PSHEZ0010AWZZ	J	AE	Sheet,CD LED
226	LHLDZ1078AWSA	J	AD	Holder,CD LED
227	JKNBZ0273AWSA	J	AF	Button,CD Operation
228	PSLDM3002AWFW	J	AF	Plate,FL Shield
229	LHLDZ1040AW00	J	AE	Holder,FL
230	PSPAG0005AWZZ	J	AB	Cushion,Remote Control Receiver
231	LANGK0027AWFW	J	AK	Bracket,CD Switch PWB
232	92LN-BAND1318A	J	AA	Nylon Band,80mm
233	LCHSM0046AWFW	J	AT	Main Chassis
234	92LRDAT1587A	J	AC	Heat Sink
⚠235	QACCB0003AW00	J	BA	AC Power Supply Cord [For Europe]
⚠235	QACCE0003AW00	J	AG	AC Power Supply Cord [For UK]
⚠236	LBSHC0002AWZZ	J	AD	Bushing,AC Power Supply Cord
237	PRDAR0034AWFW	J	AT	Heat Sink (A)
238	PRDAR0064AWFW	J	AQ	Heat Sink (B)

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
239	PRDAR0038AWFW	J	AL	Heat Sink (C)
240	LANGT0002AWZZ	J	AF	Bracket,Main PWB
242	GCAB-3073AWSA	J	AS	Panel,Rear [For Europe]
242	GCAB-3074AWSA	J	AS	Panel,Rear [For UK]
243	LANGK0029AWFW	J	AG	Bracket,MD Mechanism Unit
244	PANEL2124AASY1	J	AM	Top Panel Ass'y
244-1	HDECQ0072AWSA	J	AK	Clear Panel,Top Panel
244-2	LHLDZ1079AWSA	J	AF	Holder,Top Clear Panel
245	GCOVA1110AWSA	J	AL	Cover,CD Tray
246	CCOV2375AASY1	J	AM	Cassette Holder Ass'y
246-1	GCOVA1111AWSA	J	AK	Cover,Cassette Holder
246-2	HDECQ0149AWSA	J	AF	Panel,Cassette Holder Cover
248	JKNBK0020AWSF	J	AC	Knob,Auxiliary Level Control
249	JKNBK0038AWSA	J	AE	Knob,Jog Dial
251	GCAB-3033AWSB	J	BC	Cabinet
252	———		—	With UNTA51/52
⚠254	92LFSHOLD1652T	J	AB	Holder,Fuse
256	GCOVA1002AWSA	J	AR	Disc Tray
257	GCOVA1003AWSA	J	AN	Turntable
258	LANGK0030AWFW	J	AG	Bracket,CD Mechanism Up/Down Cam
259	LANGF0002AWZZ	J	AF	Bracket,Disc Tray
260	LCHSM0002AWZZ	J	AQ	CD Chassis
261	92LSHFT1854AS1	J	AG	Worm Gear Ass'y
262	PCUSF0005AW00	J	AC	Cushion,Magnet
263	92LHOLD1728B	J	AC	Holder,Magnet
264	PMAGF0001AWZZ	J	AF	Magnet
265	92LSUPT1728A	J	AB	Holder,Magnet Stabilizer
267	NGERH0001AWZZ	J	AE	Gear,Main
268	LHLDZ1004AWZZ	J	AB	Holder,Disc Select Motor
269	LHLDZ1005AWZZ	J	AG	Holder,CD Mechanism
270	MCAMP0001AWZZ	J	AG	Cam,CD Up/Down
271	NBLTK0001AWZZ	J	AC	Belt,Loading Drive
272	NBLTK0002AWZZ	J	AC	Belt,Disc Select Drive
273	PCOVZ1005AWZZ	J	AE	Cover,Wire
274	NGERH0002AWZZ	J	AE	Gear,Disc Select
275	NGERH0003AWZZ	J	AE	Gear,Loading
276	NGERH0004AWZZ	J	AE	Gear,Drive
277	PSPAZ0003AWZZ	J	AB	Cushion
278	PSHET0006AWZZ	J	AC	Sheet,Disc Tray
279	LANGK0031AWFW	J	AE	Bracket,CD Servo PWB
280	MSPRZ0005AWZZ	J	AC	Spring,Earth
281	QCNWN0620AWZZ	J	AD	Cord,Earth
282	GLEGP0005AWSA	J	AC	Cushion,Leg
283	HDECQ0168AWSA	J	AG	Panel,FL Display
284	HDECQ0152AWSA	J	AC	Panel,LED,Left
285	HDECQ0153AWSA	J	AC	Panel,LED,Right
286	LHLDZ1091AWZZ	J	AD	Holder,Jog Dial Knob
288	PSPAZ0013AWSA	J	AC	Spacer,MD LED
289	QCNWN0526AWZZ	J	AD	Lead Wire with Tip
290	QCNWN0534AWZZ	J	AD	Lead Wire with Lug
291	92LCORE1777A	J	AE	Core
292	RCORF0002AWZZ	J	AE	Core
293	92LLUG1746A	J	AA	Terminal,Lug
294	PCOVP1005AWZZ	J	AD	Cover,Power PWB
601	92L2R6S+6BZ	J	AA	Screw,ø2.6×6mm
602	XEBSD30P10000	J	AA	Screw,ø3×10mm
603	XEBSD26P10000	J	AA	Screw,ø2.6×10mm
605	XEBSD30P08000	J	AA	Screw,ø3×8mm
606	XESSD30P10000	J	AA	Screw,ø3×10mm
608	XHBSD40P08000	J	AA	Screw,ø4×8mm
609	LX-JZ0003AWFF	J	AA	Screw,ø3×12mm
610	92L3PTS+10BZ	J	AA	Screw,ø3×10mm
612	LX-JZ0004AWFD	J	AA	Screw,ø3×12mm
613	LX-EZ0010AWFD	J	AA	Screw,Spechal
614	XWSSD40-11000	J	AA	Washer,ø4mm
615	LX-EZ0005AWFD	J	AA	Screw,Spechal
616	XHSSD30P08000	J	AA	Screw,ø3×8mm
617	XJBSD30P12000	J	AA	Screw,ø3×12mm
618	XWHSD45-10120	J	AA	Washer,ø4.5×12mm
619	XHBSD30P06000	J	AA	Screw,ø3×6mm
620	XHBSD30P08000	J	AA	Screw,ø3×8mm
621	XJBSD30P14000	J	AA	Screw,ø3×14mm
624	XWSSN32-07000	J	AB	Washer,ø3.2mm
625	LSTWC1501AWZZ	J	AB	Stop Washer
626	LX-WZ0014AGFK	J	AA	Washer,ø2.6mm
627	XHBSD30P08000	J	AA	Screw,ø3×8mm
628	XJBSF30P08000	J	AA	Screw,ø3×8mm
629	XJBSD30P08000	J	AA	Screw,ø3×8mm

NO.	PART CODE	★	PRICE RANK	DESCRIPTION

SPEAKER BOX PARTS

901	92L20100CPX320	J	AY	Net Frame Ass'y
902	92L20000CPX310	J	AY	Front Panel Ass'y
903	92L21602CPX310	J	AS	Decoration,Speaker
904	92L10002CPX310	J	BN	Spearker Box Ass'y
⚠ 904-1	92LETER3S450	J	AH	Terminal,Speaker
905	92L44290520100	J	AE	Cushion,Speaker Cord
906	92L20500CPX300	J	AP	Speaker Duct
907	92L44010211400	J	AF	Port Cushion
908	92LPCAT1XL12	J	AC	Catcher,Holder
909	92L21000CPX300	J	AQ	Baffle Plate
910	92L3141CPX3S10	J	AQ	Speaker Cord Ass'y
911	92L411B940120P	J	AD	Screw,ø4×12mm
912	92L411S84025AB	J	AD	Screw,ø4×20mm
913	92L411S84012AB	J	AD	Screw,ø4×20mm
914	92L411S126100P	J	AE	Screw,ø2.6×10mm
915	92L6000CPX3H00	J	AD	Panel,Specification
916	92L411B94012P	J	AD	Screw,ø4×12mm
SP1,2	VSP0013WB088A	J	BG	Woofer
SP3,4	VSP0065TB206A	J	AY	Tweeter

ACCESSORIES/PACKING PARTS

1	SSAKH0011AWZZ	J	AF	Polyethylene Bag,Unit
2	SPAKA0120AWZZ	J	AQ	Packing Add.,Left/Right
3	TINSE0142AWZZ	J	AG	Operation Manual [For UK]
3	TINSZ0176AWZZ	J	AT	Operation Manual [For Europe]
4	92LL-ANT1676A	J	AK	AM Loop Antenna
5	92LF-ANT1533A	J	AD	FM Antenna
6	92LBAG1460C1	J	AB	Polyethylene Bag,Accessories
7	UDSKM0001AFZZ	J	AZ	Recordable MD
8	RRMCG0080AWSA	J	AZ	Remote Control
⚠ 8-1	GFTAB1013AWSA	J	AQ	Battery Lid,Remote Control
9	92LPLYB9S6470	J	AG	Polyethylene Bag, Speaker
10	TLABM0028AWZZ	J		Label,Feature,Speaker
11	92L3191PXL1210	J	AU	Speaker Cord Ass'y
12	92L720T0CPX300	J	AL	Packing Add.,Top,Speaker
13	92L720B0CPX300	J	AK	Packing Add.,Bottom,Speaker
14	SPAKC0443AWZZ	J	AX	Packing Case
15	TLABR0846AWZZ	J		Label,Bar Code,Unit

P.W.B. ASSEMBLY (Not Replacement Item)

PWB-A1,2	92LPWB2418MANS	J	—	Main/Digital Terminal (Combined Ass'y) [UK Only]
⚠ PWB-B1~6	92LPWB2418PWRS	J	—	Volume Switch/Power Switch/ MD Switch/Dolby Switch/ Power/Power sub (Combined Ass'y) [UK Only]
PWB-C1,2	92LPWB2418DPLS	J	—	Display/CD Switch (Combined Ass'y) [UK Only]
PWB-D	92LPWB2416CDUS	J	—	CD Servo [UK Only]
PWB-E1~5	92LPWB2124CDTS	J	—	Loading Motor/Disc Select/ Sensor1,2/Tray Switch (Combined Ass'y) [UK Only]
PWB-F	92LPWB2124MKAS	J	—	Tape Mechanism [UK Only]
PWB-G	QPWBF0027AWZZ	J	—	CD Motor (PWB Only) [UK Only]
PWB-H	DCYO-2931AF01	J	—	MD Main [UK Only]
PWB-J1,2	DUNTZ0761AF03	J	—	MD Mechanism Switch/Motor (Combined Ass'y) [UK Only]
PWB-K	92LPWB2375SRS	J	—	SRS [UK Only]

OTHER SERVICE PARTS

	QCNWK0035AFZZ	J	AN	Extension Cable (24Pin)
	QCNWK0038AFZZ	J	AF	Extension Cable (26Pin)
	QCNWK0043AFZZ	J	AG	Extension Cable, TP751 (6Pin)
	QCNWK0059AFZZ	J	AF	Extension Cable (2Pin)
	QCNWK0060AFZZ	J	AH	Extension Cable (5Pin)
	QCNWK0061AFZZ	J	AK	Extension Cable (5Pin)
	QCNWK0086AFZZ	J	AM	Extension Cable (8Pin)
	RRCDT0101AFZZ	J	CB	Test Disc,Low Reflection
	RRCDT0103AFZZ	J	BK	Head Adjusting Transparend Disc
	RUNTK0385AFZZ	J	BS	Extension PWB
	UDSKM0001AFZZ	J	AZ	Recording Mini Disc

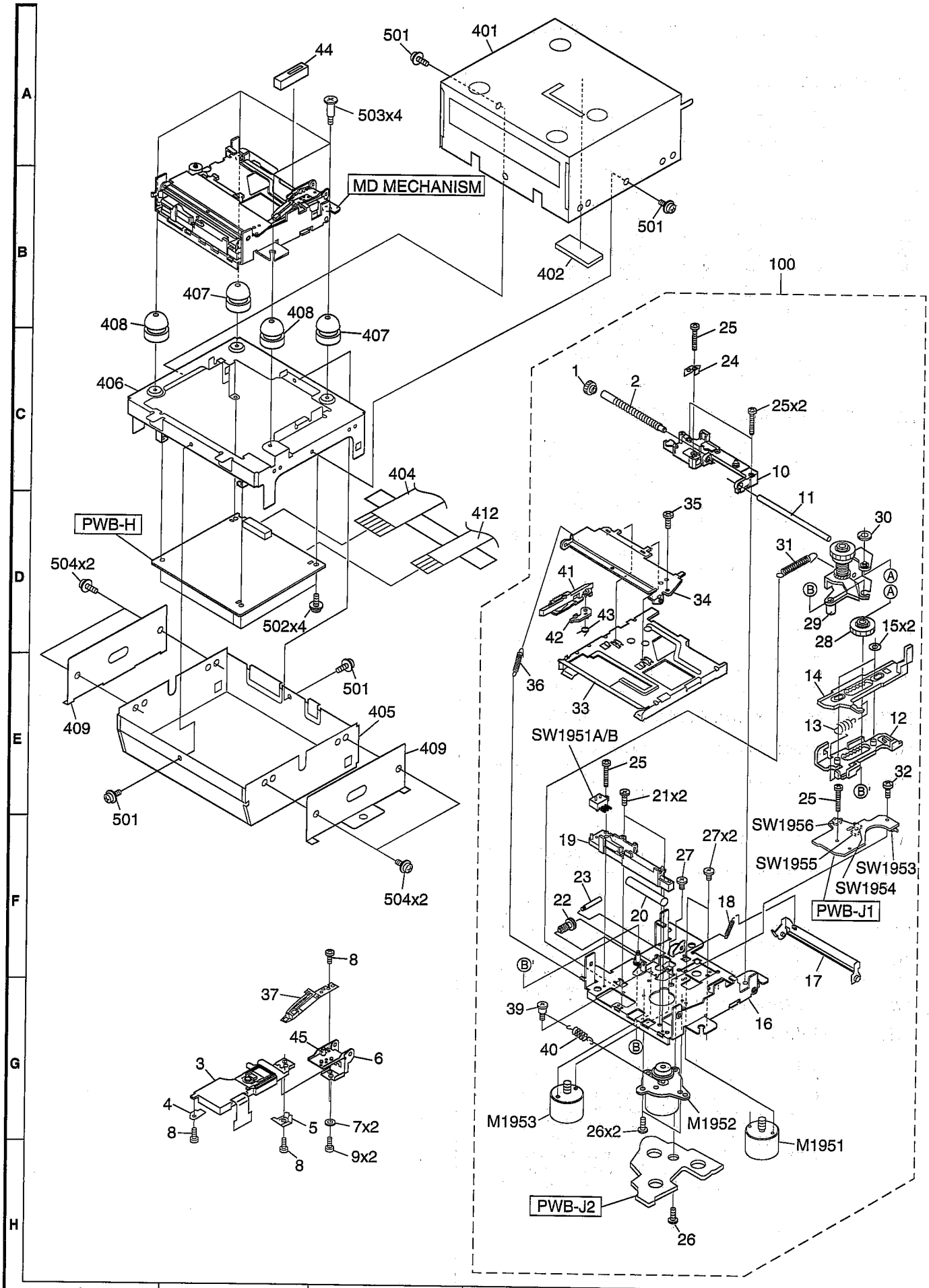


Figure 13 MD MECHANISM EXPLODED VIEW

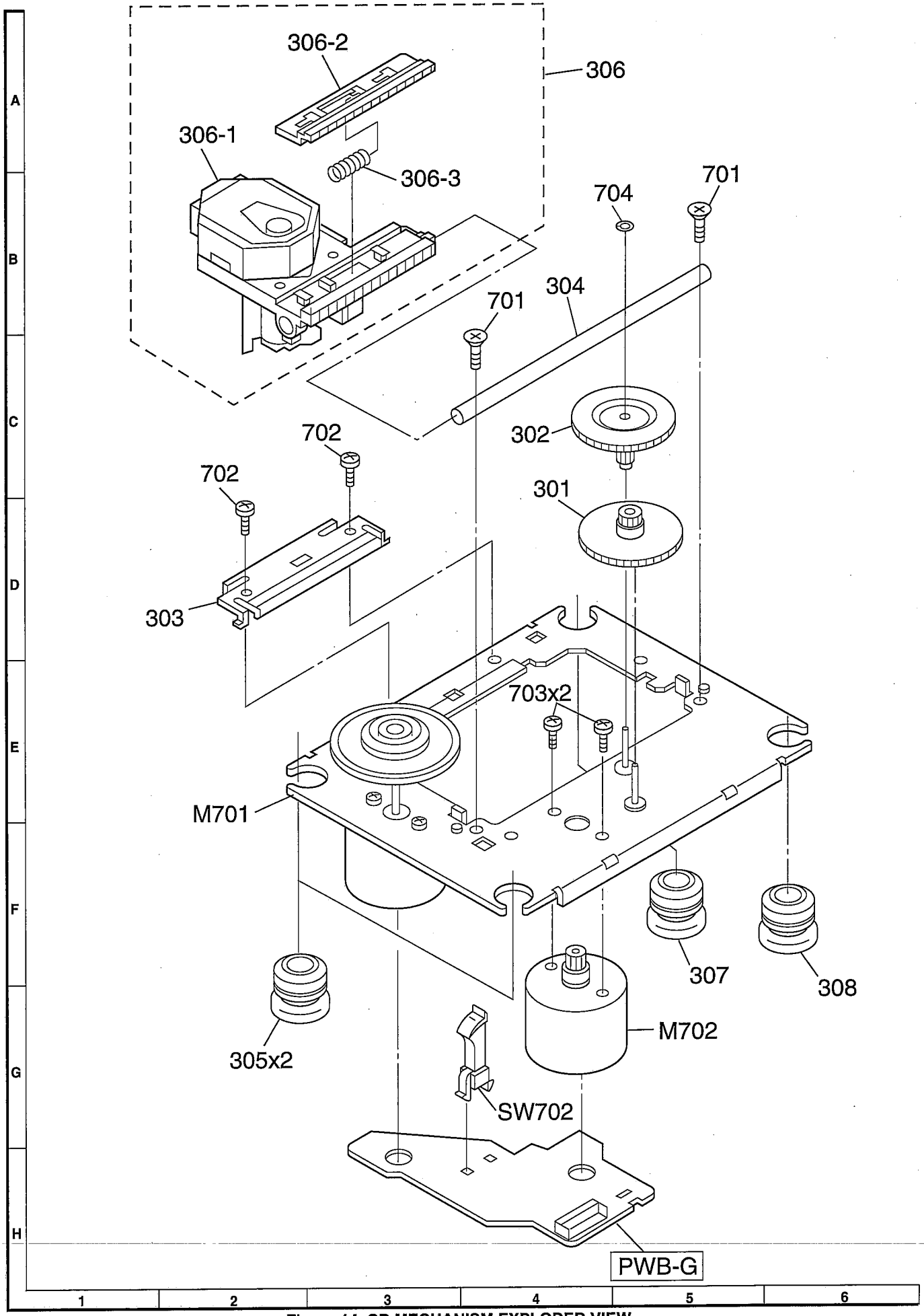


Figure 14 CD MECHANISM EXPLODED VIEW

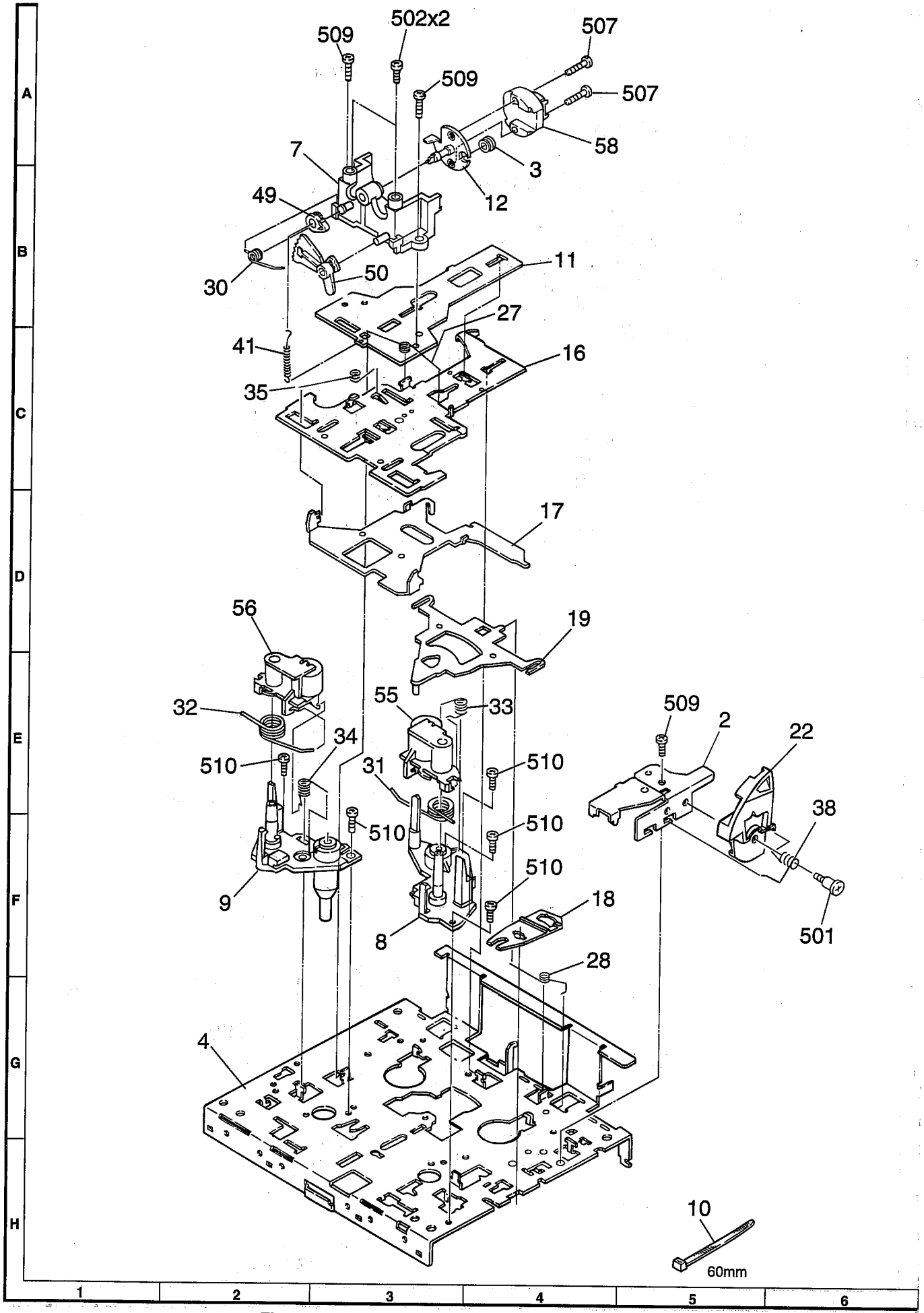


Figure 15 TAPE MECHANISM EXPLODED VIEW (1/2)

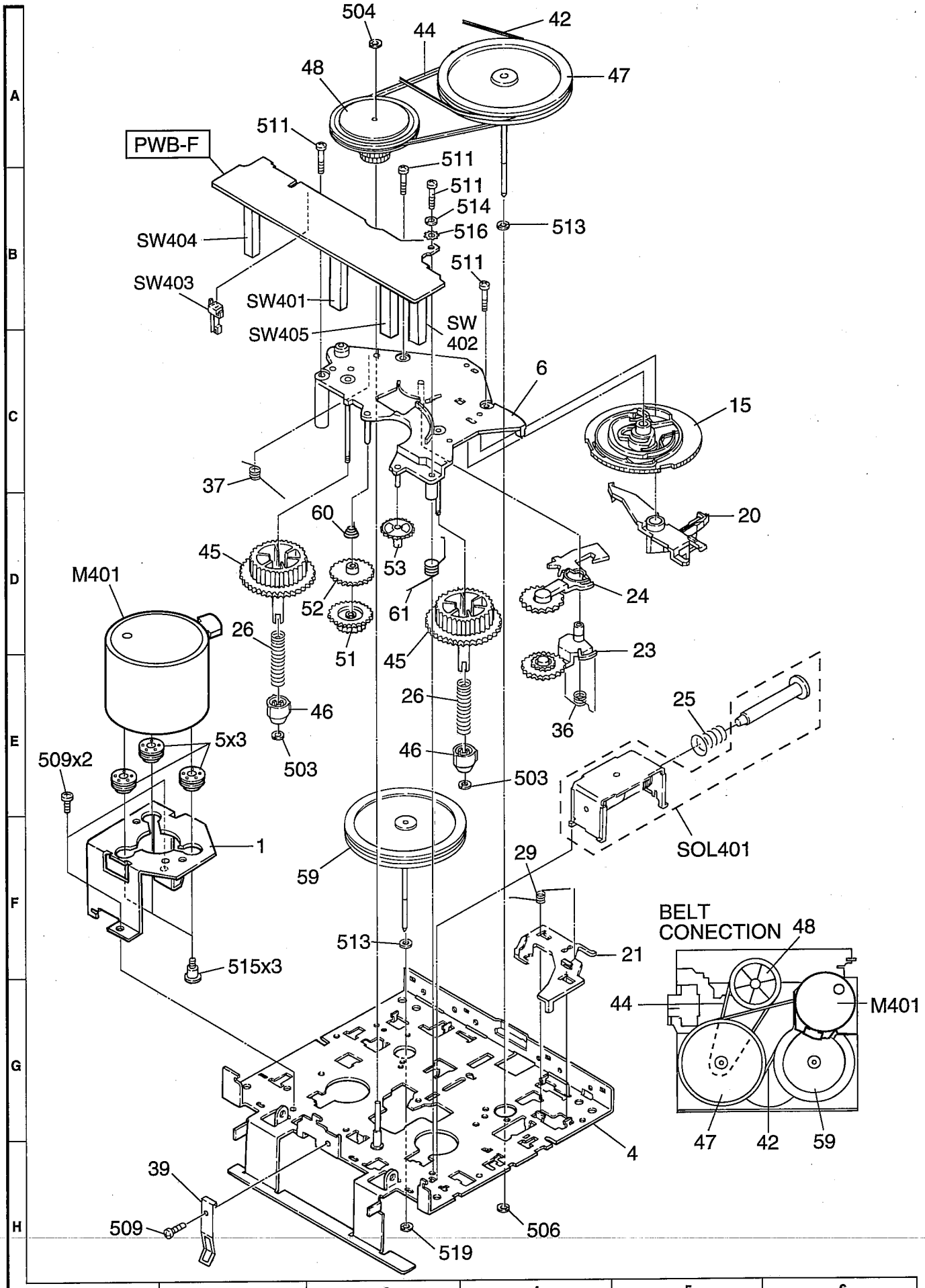


Figure 16 TAPE MECHANISM EXPLODED VIEW (2/2)

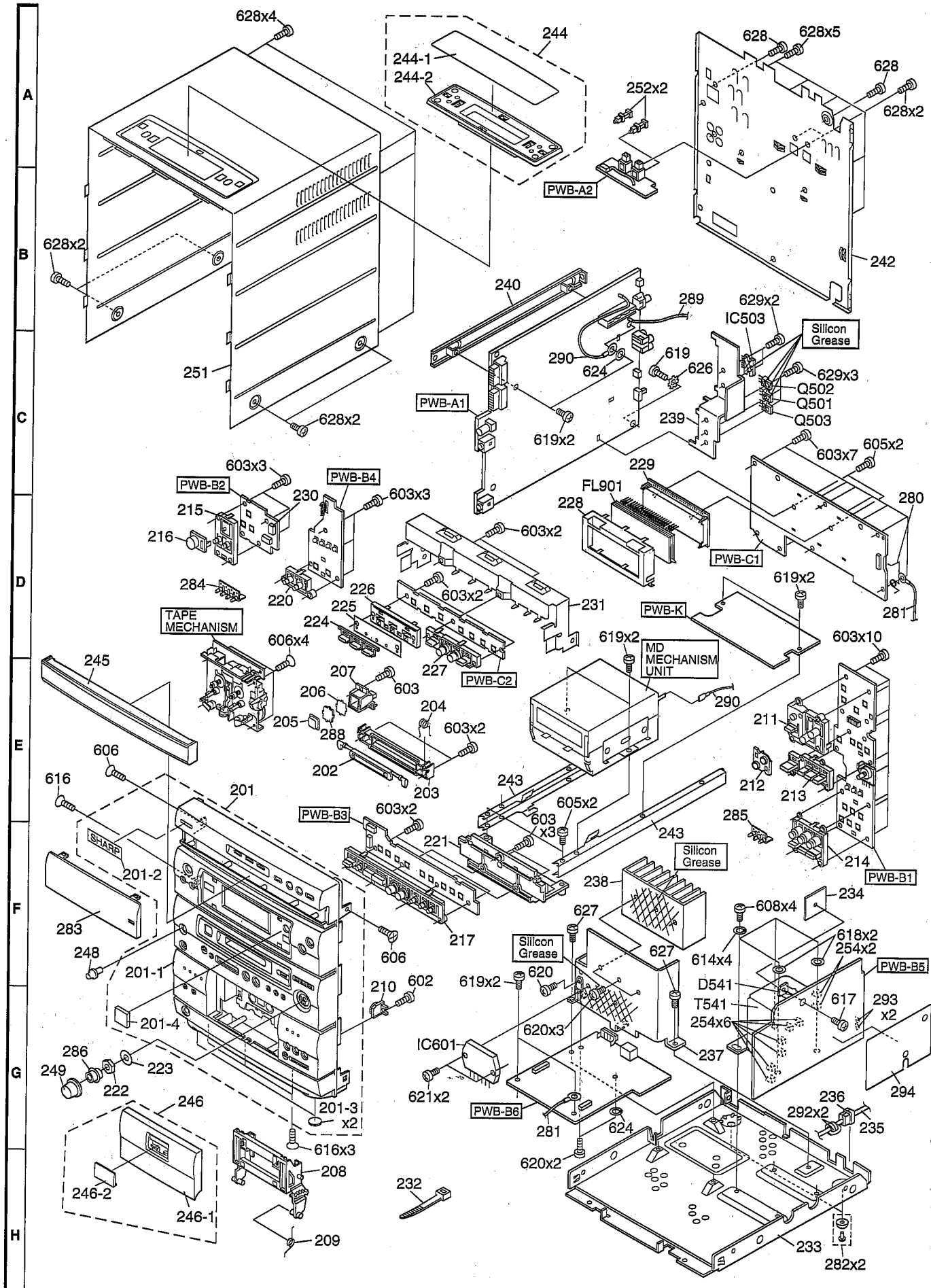
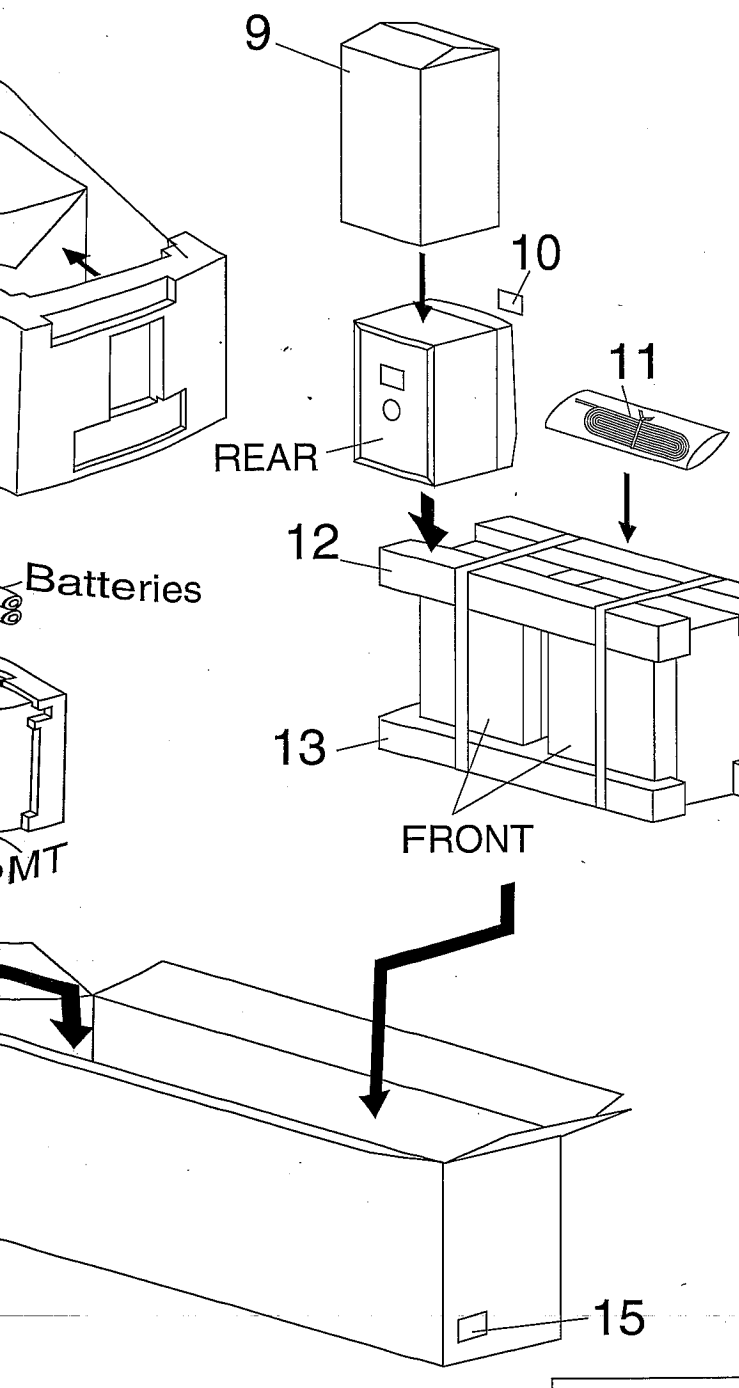


Figure 17 CABINET EXPLODED VIEW (1/2)

THE SET (FOR UK ONLY)

1.	Polyethylene Bag, Unit	SSAKH0011AWZZ
2.	Packing Add., (L/R)	SPAKA0120AWZZ
3.	Operation Manual	TINSE0142AWZZ
4.	AM Loop Antenna	92LL-ANT1676A
5.	FM Antenna	92LF-ANT1533A
6.	Polyethylen Bag, Accessories	92LBAG1460C1
7.	Recordable MD	UDSKM0001AFZZ
8.	Remote Control	RRMCG0080AWSA
9.	Polyethylene Bag, Speaker	92LPLYB9S6470
10.	Feature Label, Speaker	TLABM0028AWZZ
11.	Speaker Cord	92L3191PXL1210
12.	Packing Add., Top, Speaker	92L720T0CPX300
13.	Packing Add., Bottom, Speaker	92L720B0CPX300
14.	Packing Case	SPAKC0443AWZZ
15.	Bar Code Lable, Unit	TLABR0846AWZZ



cation & Audio Systems Group, Sharp Corp.

A9611-6062NS•HA•M
Printed in U.K.
SG. SK

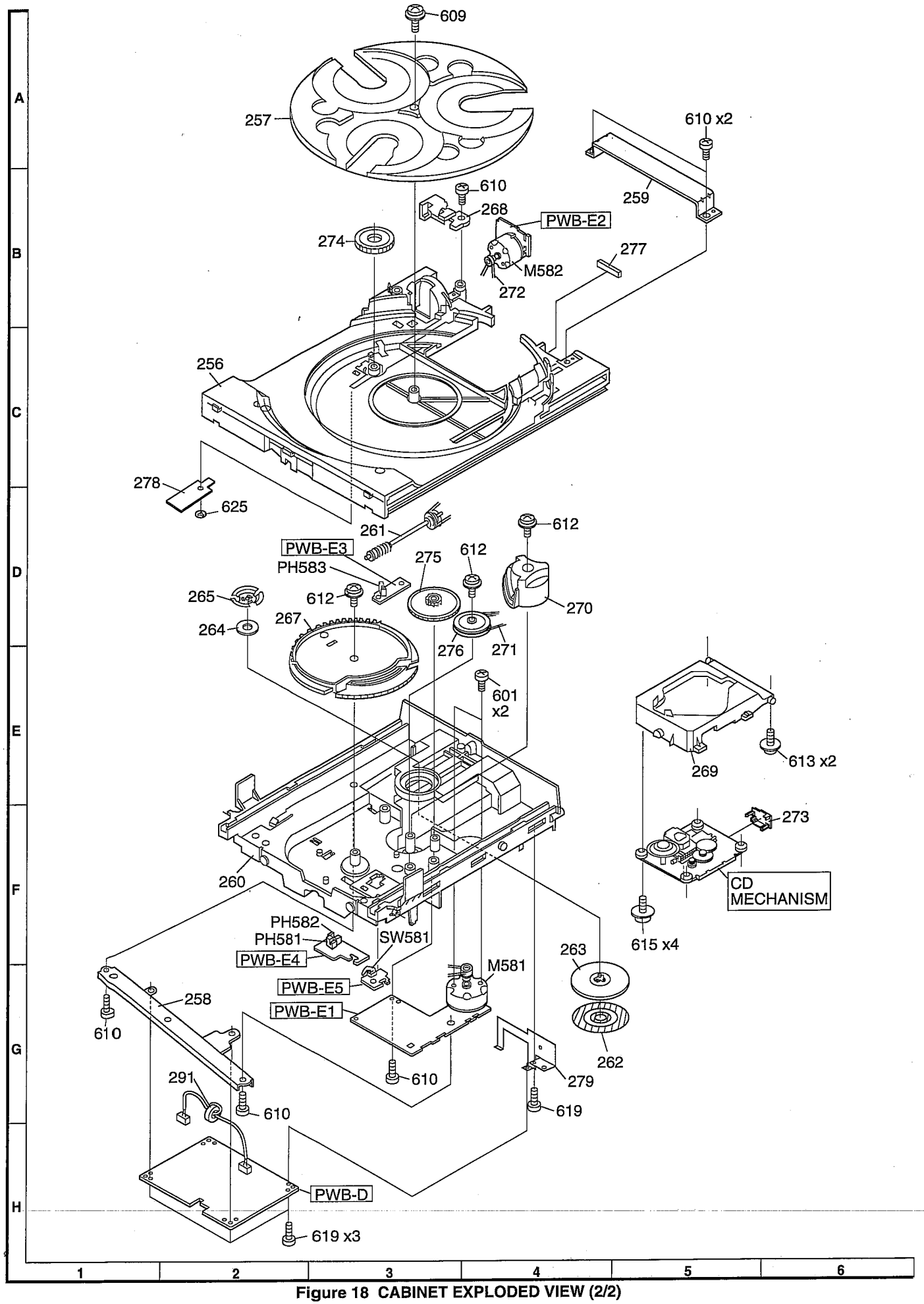


Figure 18 CABINET EXPLODED VIEW (2/2)

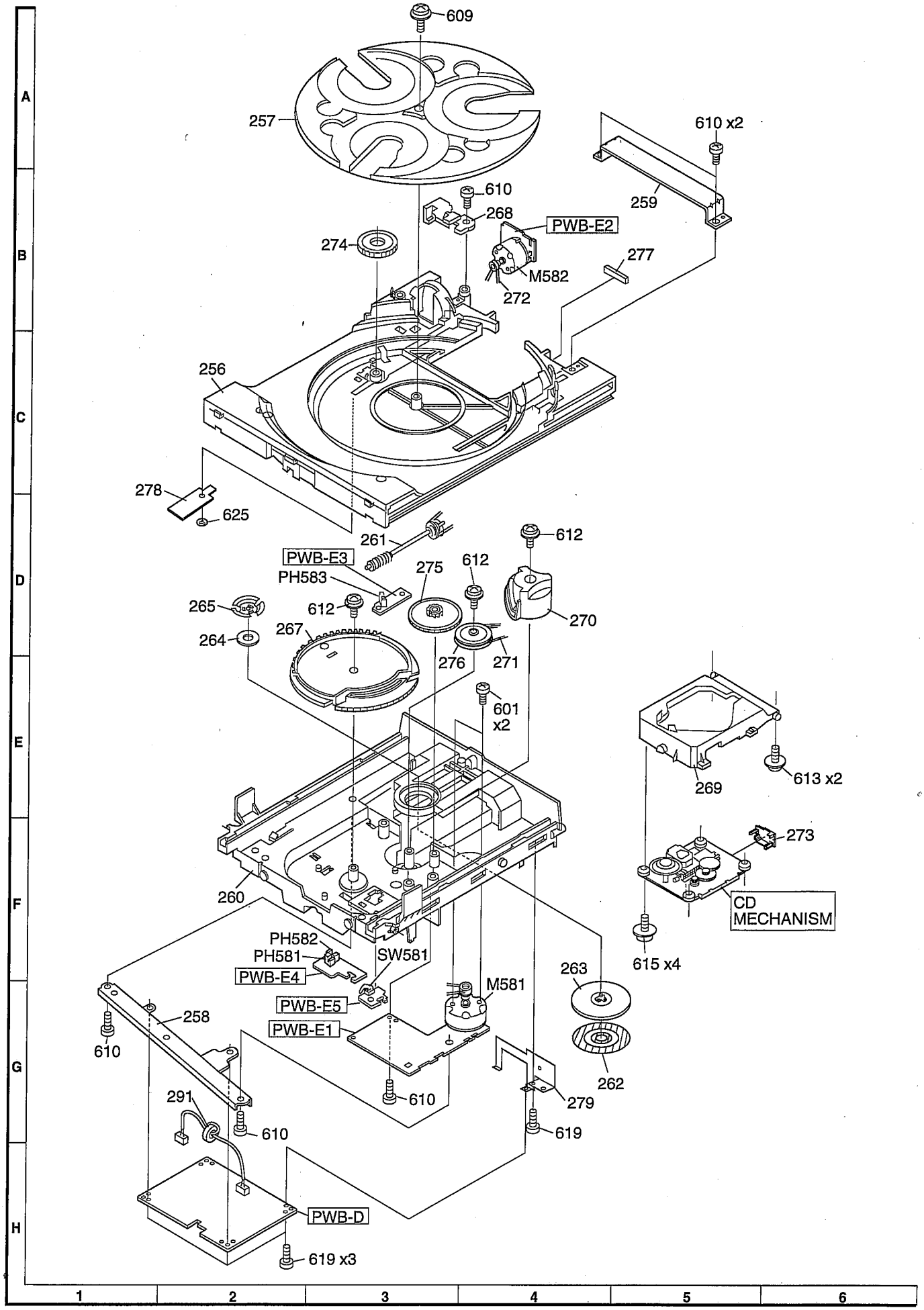


Figure 18 CABINET EXPLODED VIEW (2/2)

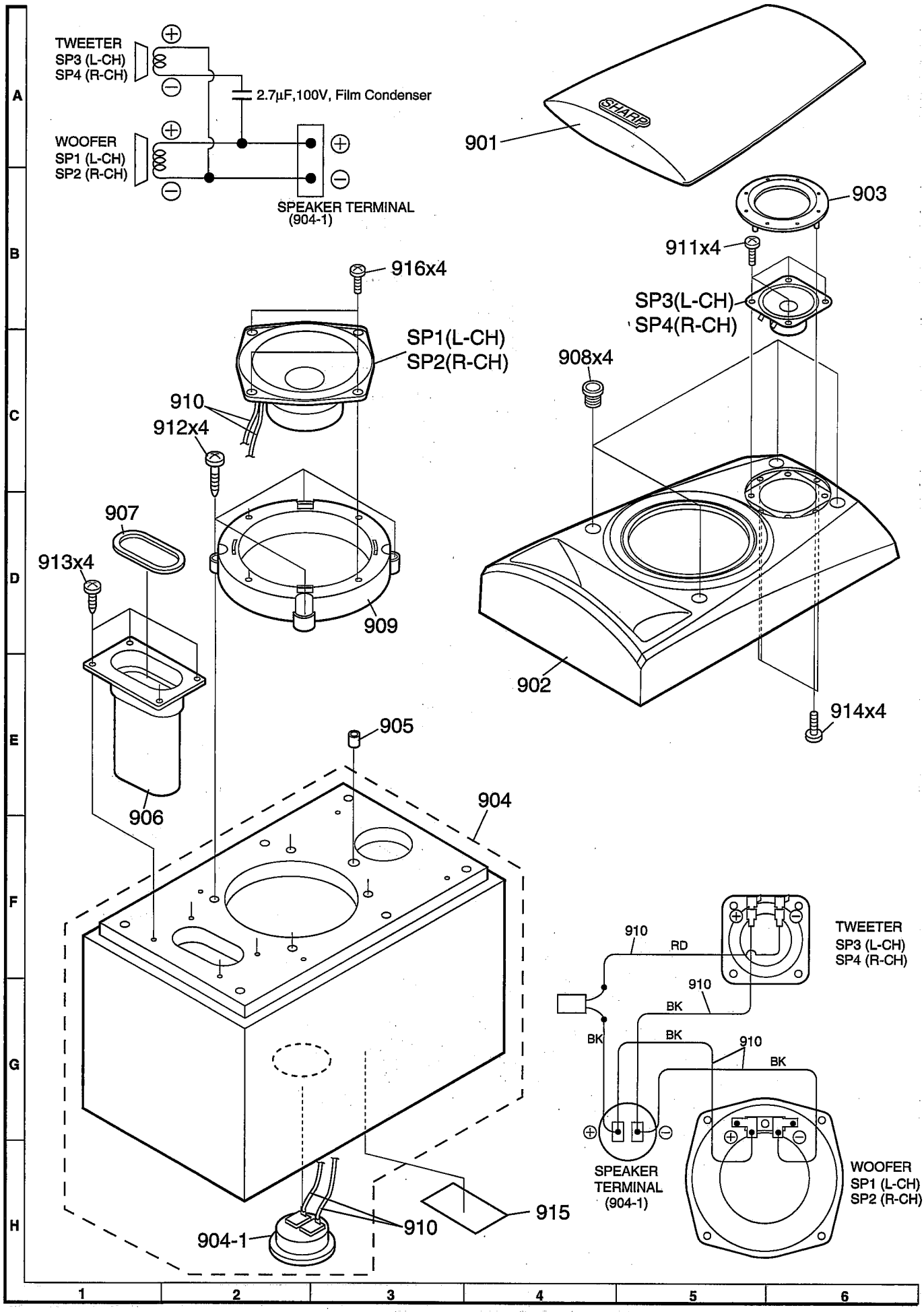


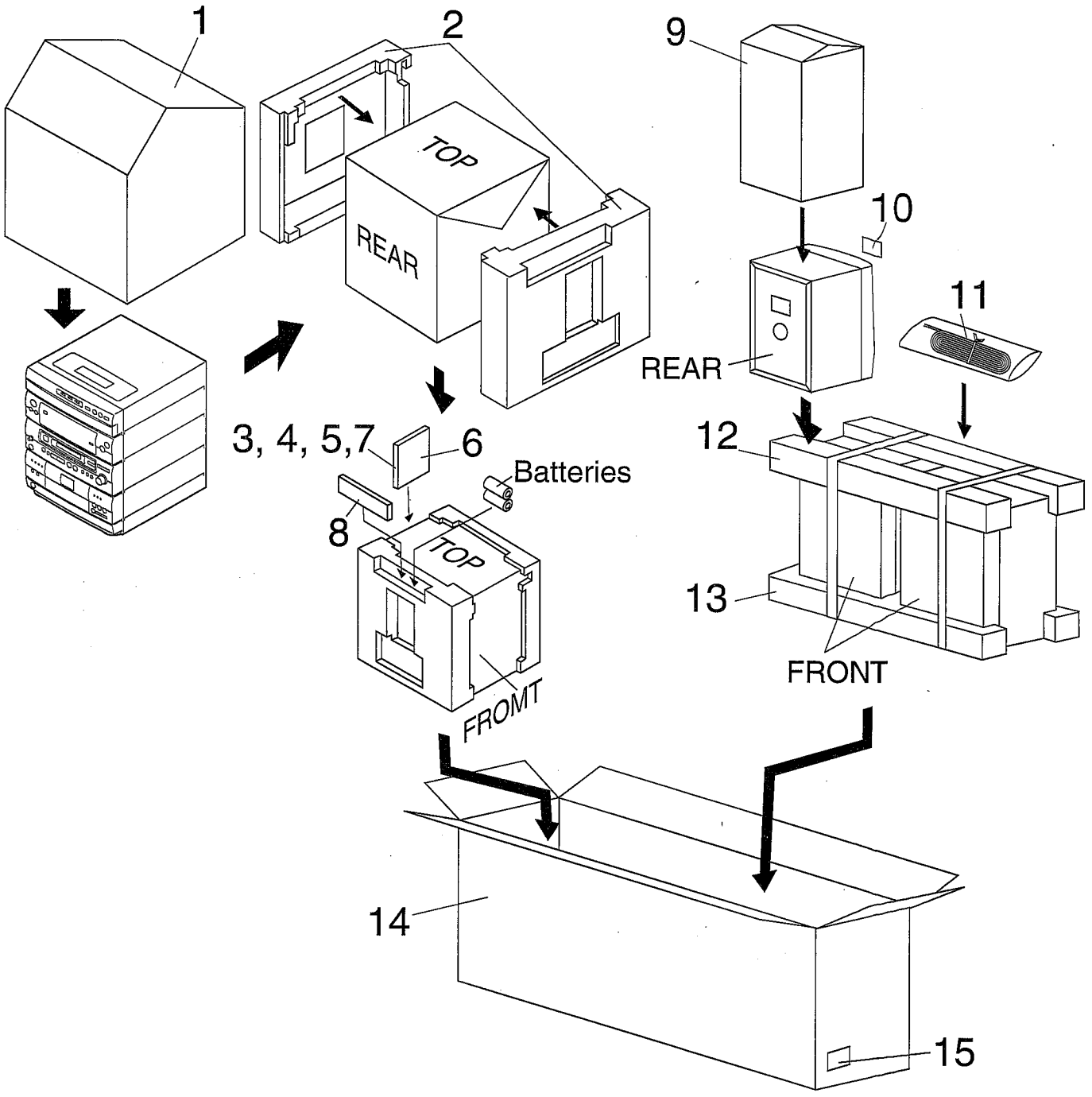
Figure 19 SPEAKER BOX EXPLODED VIEW

MEMO

PACKING OF THE SET (FOR UK ONLY)

Setting position of switches and knobs	
Tape Mechanism	STOP STATE
Beat Cancel	B

1.	Polyethylene Bag, Unit	SSAKH0011AWZZ
2.	Packing Add., (L/R)	SPAKA0120AWZZ
3.	Operation Manual	TiNSE0142AWZZ
4.	AM Loop Antenna	92LL-ANT1676A
5.	FM Antenna	92LF-ANT1533A
6.	Polyethylen Bag, Accessories	92LBAG1460C1
7.	Recordable MD	UDSKM0001AFZZ
8.	Remote Control	RRMCG0080AWSA
9.	Polyethylene Bag, Speaker	92LPLYB9S6470
10.	Feature Label, Speaker	TLABM0028AWZZ
11.	Speaker Cord	92L3191PXL1210
12.	Packing Add., Top, Speaker	92L720T0CPX300
13.	Packing Add., Bottom, Speaker	92L720B0CPX300
14.	Packing Case	SPAKC0443AWZZ
15.	Bar Code Lable, Unit	TLABR0846AWZZ



Writer and Editor: Quality & Reliability Control Center of Communication & Audio Systems Group, Sharp Corp.

A9611-6062NS•HA•M
Printed in U.K.
SG. SK